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ABSTRACT

The purpose of this manual, which accompanies a video program, is to provide general background information for foreign language teachers who are, or soon will be, teaching in total, partial, or two-way immersion classrooms. Part of a series of video programs, this manual highlights techniques, strategies, and special considerations that immersion teachers must think about as they plan for and teach language arts to upper grade elementary students who have been enrolled in immersion programs since kindergarten or Grade 1. This teacher's manual and the accompanying video may be used in a variety of ways. The viewer may first wish to read the report of the Commission on Reading "Becoming a Nation of Readers" in the section "Background Reading," and then view the video program and complete the related activities included in the manual, or the viewer may wish to first watch the video, read the articles, and complete the eight activities in Parts 1 and 2 of the manual. Appendixes include two short stories, definitions of types of discourse, and a list of writing intents. (Contains 24 references.) (VWL)

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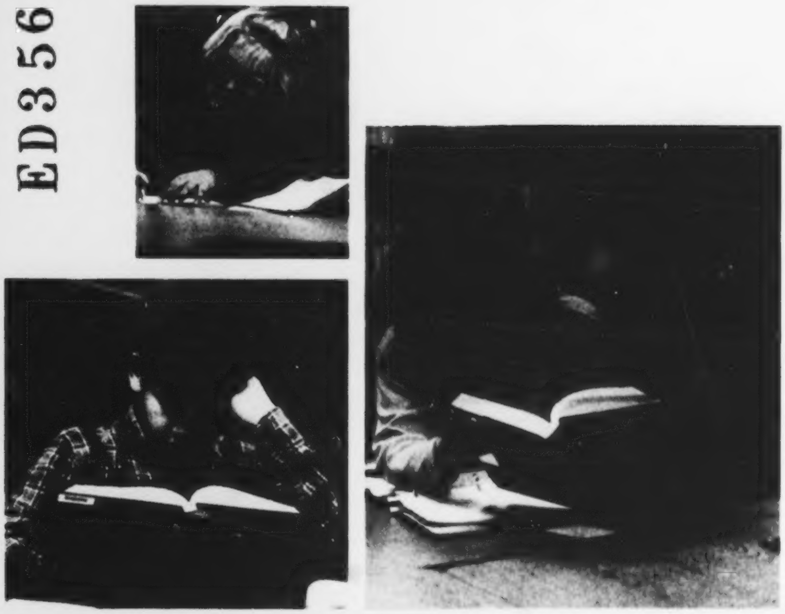

Teaching Reading and Language Arts in the Immersion Classroom:

Grades 3-6

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Division of Academic Skills
Office of Instruction and Program Development
Montgomery County Public Schools
Rockville, Maryland

1990

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TEACHING READING AND LANGUAGE ARTS IN THE IMMERSION CLASSROOM
GRADES 3 - 6

TEACHER'S ACTIVITY MANUAL

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Division of Academic Skills
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Photograph by William E. Mills

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PREFACE

Video production

The production of this video program and manual was funded by a federal grant from the U.S. Department of Education, Title VI, International Research and Studies: Improving Foreign Language Methodology Through Immersion Teacher Training. This grant was developed and implemented by the Office of Instruction and Program Development, Division of Academic Skills, Foreign Languages, Montgomery County Public Schools, Rockville, Maryland, from July, 1989 to June 1990. The activities for this grant were carried out by Eileen Lorenz, immersion resource teacher and Myriam Met, foreign language coordinator.

The production of this program would not have been possible without the cooperation and support of the elementary immersion staff and students of the three Montgomery County Public Schools immersion programs: Oak View, Rock Creek Forest, and Rolling Terrace elementary schools. Montgomery County Public Schools television staff members also made significant contributions to this project.

Upon request, this manual and video program will be distributed to school districts and institutions of higher education to be used for nonprofit training workshops and research projects. Requests for these materials should be accompanied by a $25 check made payable to Montgomery County Public Schools. Requests should be addressed to:

Foreign Language Coordinator
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INTRODUCTION

Purpose of the video program and manual

The purpose of the program and manual is to provide general background information for foreign language teachers who are, or will soon be, teaching in early total, partial, or two-way immersion classrooms. The sixth in a series of video programs, Teaching Reading and Language Arts in the Immersion Classroom: Grades 3 - 6 highlights techniques, strategies, and special considerations that immersion teachers must think about as they plan for and teach reading and language arts to upper grade elementary students who have been enrolled in an immersion program since Kindergarten or Grade 1.

How to use the video program and manual

The Teacher's Activity Manual and the videotape have been designed to complement one another and may be used in a variety of ways. The video program has been divided into three sections and it is recommended that each be viewed separately. The viewer may first wish to read the articles found in the section, "Background Reading," and then view the video program and complete the related activities included in the manual. Or, the viewer may wish first to watch the video, read the articles and then complete the activities in the manual.

The video and accompanying activity manual may be used effectively by either a teacher or group of teachers. Multiple viewings to review specific sections of the video provide opportunities to use the program to support a variety of objectives.

PREVIEWING ACTIVITY

Activity 1 PREVIEWING ACTIVITY

Reading and writing are activities which we perform every day, while giving little thought to what skills and concepts we are using. As an immersion teacher you are charged with teaching upper grade (grades 3-6) students to read and write in the immersion language. Special attention must be given to both students' understanding and their use of oral and written language across the curriculum.

I. Before you begin to play the video program, note your definitions of reading and writing. If possible, discuss how you've defined reading and writing with a colleague. You will probably want to keep these definitions in mind as you view the program.

Reading is

Writing is

Activity 1 PREVIEWING ACTIVITY - continued

II. Teaching reading and language arts in the immersion language is a challenging task. If you are an experienced immersion teacher, note on the following page the tasks that you have found most challenging when working with upper grade (3-6) elementary students. If you have never taught in an immersion setting, note on the following page any issues or questions that you have about teaching reading and language arts to upper grade elementary immersion students. This video program may respond to some of your issues or it may raise new ones. However, you will probably find it helpful to keep these issues in mind as you view each section of the video program.

Activity 1 PREVIEWING ACTIVITY - continued

CHALLENGING ASPECTS OR QUESTIONS ABOUT TEACHING READING AND LANGUAGE ARTS TO UPPER GRADE ELEMENTARY IMMERSION STUDENTS

1.

2.

3.

4.

5.

PART I

THE READING PROCESS

Part 1 Activity 1

The Reading Process - Survey and Activate Prior Knowledge

Survey

Whether the materials to be read are a novel, such as Little House on the Prairie (in translation), a short story, such as My Favorite Sea Monsters: Great White Shark (Appendix A), or an expository article about koalas, Say Cheese, Please (Appendix B), immersion teachers must survey and activate students' prior knowledge before students begin to read. In an upper grade elementary immersion classroom, surveying students' background information about a topic includes two tasks:

- finding out what students already know about the specific topic
- finding out what language students have available to understand, discuss and write about the topic

Experienced immersion teachers tell us that as they inventory students' knowledge about a topic and language, they:

- integrate listening, speaking, reading, and writing
- use many verbal and nonverbal clues to support the meaning of the topic being discussed (Common strategies include: paraphrase, such as defining "a pioneer" as a person who seeks out unknown territory to settle; define by example, such as defining the term "products" from the early settlement colonists by naming tobacco, cattle, indigo, and corn; use visual representations of objects, such as pictures of tools used by the pioneers during the westward movement; and display real objects, such as dried corn, flour, and other pioneer food staples

Part 1 Activity 1 - continued

The Reading Process - Survey and Activate Prior Knowledge

- use brainstorming, pair, and group work to provide students with many opportunities to discuss what they know, ask questions of their classmates, and record their background knowledge
- discuss, as a class, students' background information gathered during pair and group work
- record students' background knowledge on chart paper; i.e., "What We Know About..." so that information remains posted in the classroom and provides students with an available reference of class members' knowledge and language used to express this knowledge

Activate

The very same activities that teachers use to survey students' background knowlege also stimulate or activate students' recall of past experiences and previously learned language. Additionally, these activities frequently help students see connections among various areas of the curriculum. For example, Grade 6 total immersion students who have completed study of a unit about Africa should have available broader background knowledge and richer language than before studying this unit. They should be able to use the knowledge and language learned in social studies to better understand what they are studying in reading and language arts. As students read a novel about the explorations and adventures of Stanley Livingston, they will probably make connections between reading, language arts and social studies as they encounter related information.

I. In the video program, before students began to read Little House on the Prairie, an experienced immersion teacher surveyed and activated students' language level and background knowledge by asking them to work in pairs to discuss and write down whatever they already knew about the early pioneers and the westward movement. She displayed a U.S. map (in French) as a reference for students. During a whole class discussion, she recorded on chart paper students' background knowledge of the historical period and the language they used to express their ideas. Then she engaged them in an open-ended discussion about the westward movement, using a model of a covered wagon and the U.S. map as contextual clues. During these activities, she kept in mind the questions found on the following page.

Part 1 Activity 1 - continued

The Reading Process - Survey and Activate Prior Knowledge

- Am I integrating listening, speaking, reading and writing skills?
- Are my questions or activities surveying and activating both language and knowledge about the westward movement?
- Is the language I am using familiar enough to make the meaning of new concepts clear, yet challenging enough to promote students' language growth? Am I paraphrasing and defining by example frequently?
- Are the pictures and real objects I am using in the activity providing sufficient context to make sure students understand?
- Am I using several modalities to allow students to process and express their knowledge visually, auditorally, and tactile/kinesthetically?

Use these questions as guidelines to plan a lesson to survey and activate students' background knowledge about the short narrative My Favorite Sea Monsters: Great White Shark (Appendix A) or a short narrative you may use with your class. If you are a partial immersion teacher, remember to plan for many context clues and to focus students' attention on these clues frequently.

Even though the reading selection is in English, you probably will benefit more from this activity if you plan the lesson in the immersion language you teach. Discuss your lesson with a colleague.

Part 1 Activity 1 - continued

The Reading Process - Survey and Activate Prior Knowledge

II. Now use these same questions as guidelines to plan a lesson to survey and activate students' background knowledge about the short expository text, Say Cheese, Please, found in Appendix B.

Part 1 Activity 2

The Reading Process - Determine the Purpose for Reading/ Read the Text

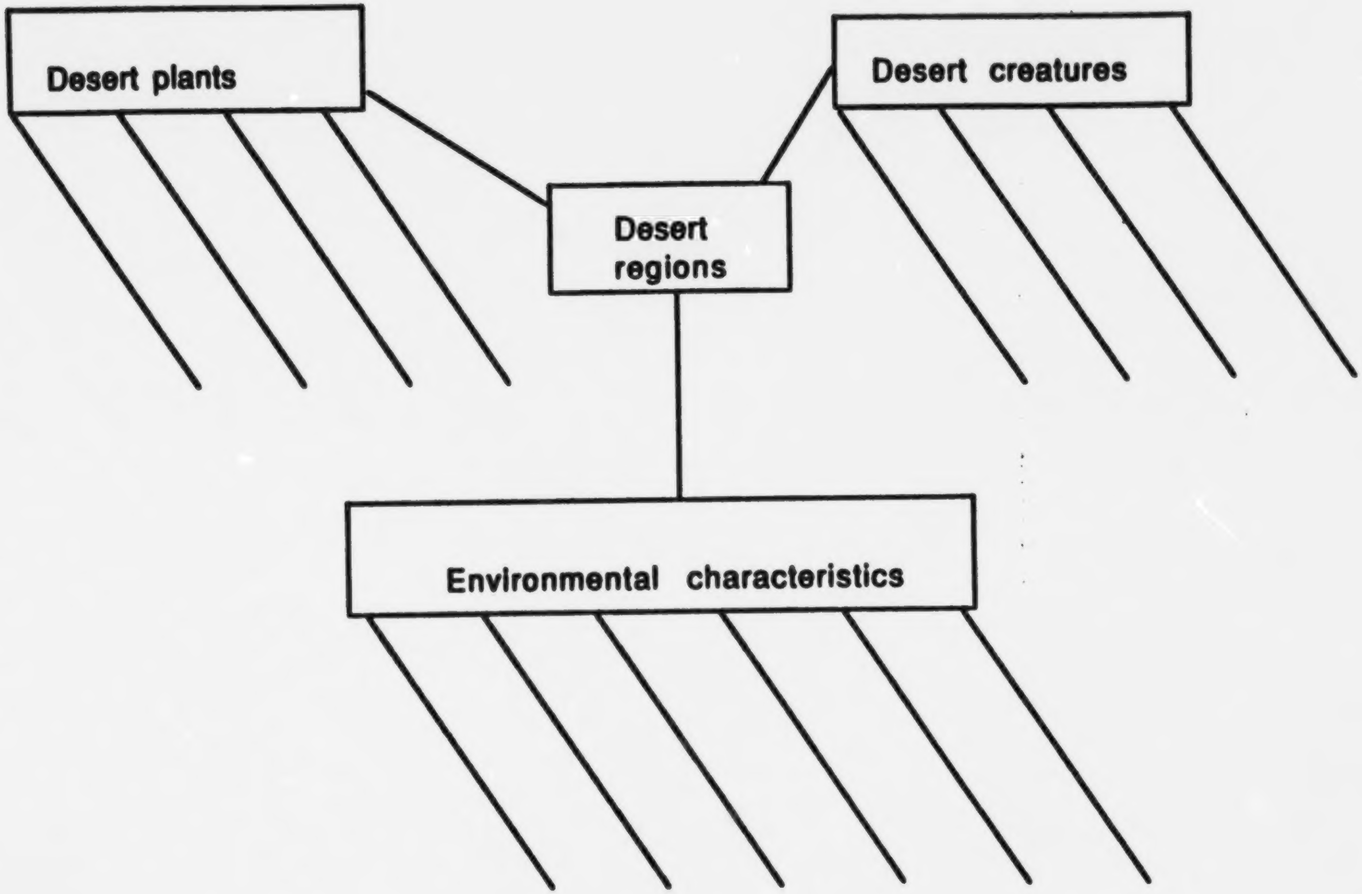
After you have surveyed and activated students' background and language knowledge about a topic, the next step in the reading process is to help students focus on, or identify the purpose for, reading the material at hand. Identifying the purpose for reading goes hand-in-hand with helping students identify how they will read, or which strategies are most appropriate for the purpose for reading. Students reading a short narrative for pleasure should approach the text with different reading strategies from those used when reading an exposition piece to gain detailed information. Think about the following questions: What do students already know about this topic? What do students want to know about this topic? Do students need only to understand the gist of the story or the main idea presented? Do students need to be concerned about understanding every word? Do students need to note specialized language? Asking yourself questions such as these will help you decide how to proceed as you plan your lessons.

Keeping in mind that the same text should be read several times with a different purpose each time, you will want to consider how multiple readings can help students better understand what they are reading and attain a variety of objectives. For example, consider the different objectives you might identify for Grade 3 students who are about to read an expository text about the plants and animals of the desert regions in the United States.

The Reading Process - Determine the Purpose for Reading/ Read the Text

Before reading, you might ask students to work in pairs and list what they know about the environmental characteristics of these desert regions; what plants and animals (or creatures) they think live in desert regions in the United States. During a whole class discussion of these three aspects of desert life, you might record students' knowledge in a large class web, such as the one noted on the following page.

On the second day, you might ask students to work again in small groups and to make a list of questions of what they would like to know about the environmental characteristics, the flora and fauna of the desert. As each group shares their questions, you or a student should note the questions on chart paper so that they can be displayed and referred to while the class is working. Now students are ready to read, or you may decide to read the piece aloud to them. Regardless, students should be reminded that their purpose for reading or listening is to be alert for information that they already knew that is confirmed by the text. After students have read or listened to the text, the class may discuss the information in the text that was already known about the desert and was previously noted in the class web. Then, working in pairs, students may be directed to discuss what information they had said they wanted to know about the desert which was found in this text.


Desert plants
Desert creatures
Desert regions
Environmental characteristics

The Reading Process - Determine the Purpose for Reading/ Read the Text

On a third day, as students read the text for a second time, they might read with a partner. As one student reads aloud, the other reads silently and follows the text, each assisting the other as needed. Pairs of students equipped with a copy of the class web may use the class list of questions and add information to the web as they reread the text.

During subsequent lessons, other possible purposes for rereading this text might be to select a favorite part to read to the class or to a small group; to write a response in a learning log to a portion of the text read aloud by a partner; to illustrate a favorite part of the text and explain it to a small group or to the entire class.

Now let's examine how you might plan multiple readings for a Grade 3 narrative text, a folktale from Mexico. Before reading, you might ask students in small groups to make predictions about the story based on information gained from the title and the cover illustrations. As each group shares predictions they should be noted on chart paper so that the class may refer back to them after they have read the story. With their predictions in mind, students may read the story for the first time to confirm or negate their predictions. In addition, another objective for the first time reading might be to understand the gist of the text.

Part 1 Activity 2 - continued

The Reading Process - Determine the Purpose for Reading/ Read the Text

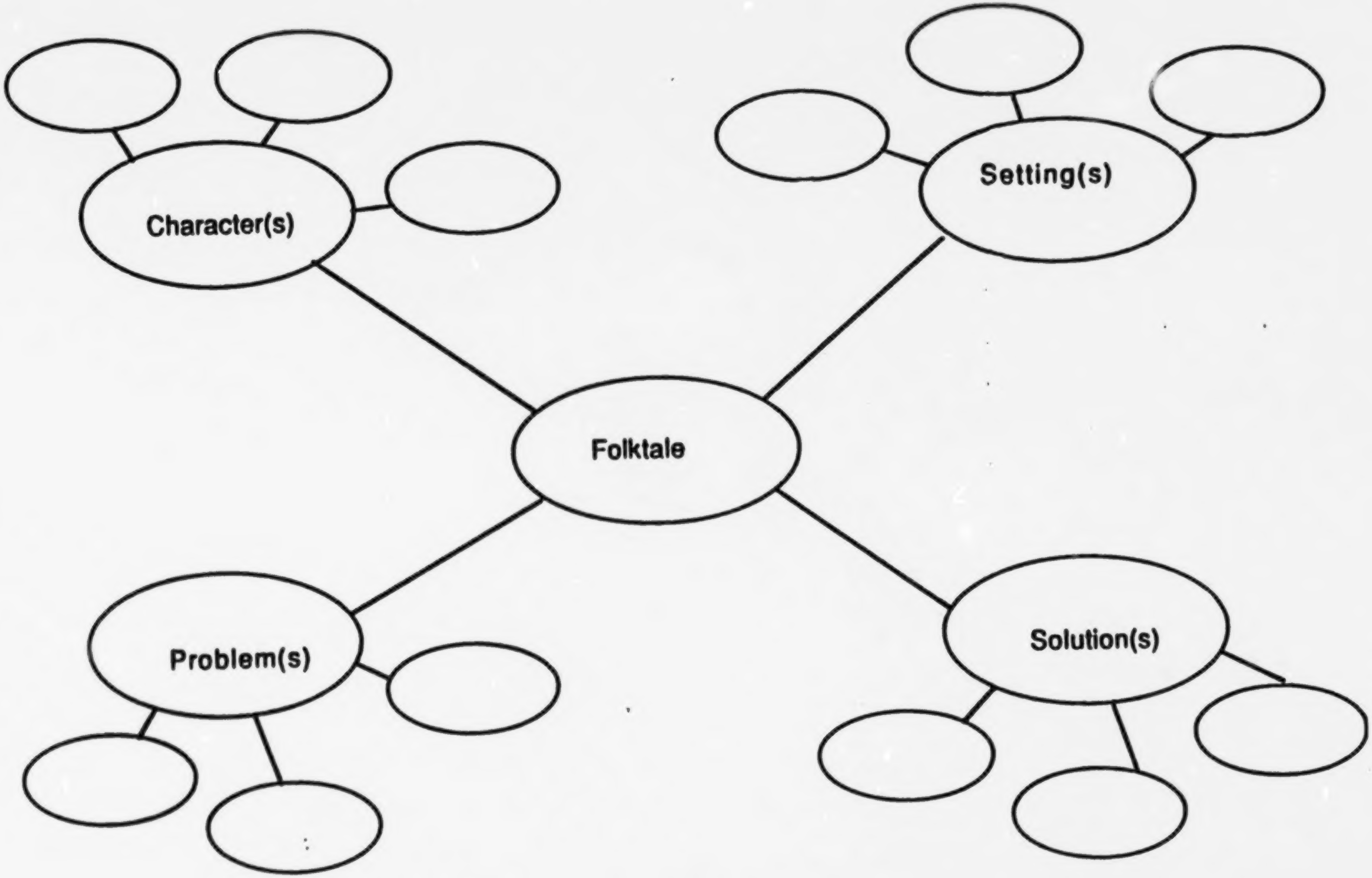
The second time students read the folktale, you might direct them to identify the story structure--the setting, the characters, the problems and the solutions. But before students read a second time, you should help them formulate questions that they can ask themselves as they read.

For example:

Where is this story taking place?
Who are the main characters?
What are the problems?
Have you ever had a problem like the one in the story?
What are the actions the character(s) take to solve the problems?
What are the solutions?
How would you solve the problem if it were yours?

When students are asked to find supporting passages in a text to justify their answers, their reading becomes more focused as they look for specific information. Students should know that they will be expected to support their answers with portions of the text being read.

Another helpful tool as students read to identify story components is a web. If students are unfamiliar with webs as a means of organizing information, you will want to model how to construct and use a web. There are several options for recording information in a web--single words, short sentences or sketches. Consideration of students' level of language proficiency will help you decide which option is most appropriate for a particular lesson.


Character(s)
Setting(s)
Folktale
Problem(s)
Solution(s)

Part 1 Activity 2 - continued

The Reading Process - Determine the Purpose for Reading/ Read the Text

Continuing the discussion of multiple readings, when students read the text again, you might ask that they look for and note all the language that describes the character traits of the main character. This information could be recorded as a list or in a web. You might ask the students to read the story another time and write a short paragraph replacing one of the main characters of the story with one they create. The number of times that you request students to read a story depends on curricular objectives, the interest level in the story, and the needs of the students.

Partial immersion teachers will probably follow these same procedures for multiple readings, incorporating some modifications in lessons to meet the needs of students. The first time through the folktale, instead of asking students to read the text silently, you might read it aloud to students. This will allow you to incorporate additional pictures, real objects, body language, and verbal clues that will support students' understanding of the text. Instead of asking students to identify the characters, setting, problems, and solutions of the story on their own, you might decide to guide students through this lesson as a whole class or in small groups. As the story structure is being identified, you might ask students to find evidence in the text to support what the group has

The Reading Process - Determine the Purpose for Reading/ Read the Text

decided. These are but two suggested strategies; there are many others. These strategies provide partial immersion students with additional clues to understanding the text, and a structured language framework that allows them to successfully read and discuss texts that are age appropriate but which otherwise might be too difficult for them to undertake.

I. Using the short narrative My Favorite Sea Monsters: Great White Shark (Appendix A), or a short narrative that you could use with your class, plan a series of multiple readings for you grade. Note the purpose for each reading and any tools or guidance that you will give your students to help them keep each purpose in mind as they read. If you're a partial immersion teacher, remember to consider possible modifications to include as you plan this lesson. If possible, discuss your activity with a colleague and/or try it out with your class.

II. In Appendix C are definitions of four types of discourse that you will probably be reading with your students during the year--narrative, expository, persuasive and procedural. Since you've already planned multiple readings for a narrative text, let's consider multiple readings for an expository text.

Part 1 Activity 2 - continued

The Reading Process - Determine the Purpose for Reading/ Read the Text

One experienced immersion teacher planned four readings for Grade 5 students for an expository text entitled Our Moon. First, she divided the class into small groups and asked students to record and organize the information they already knew about the moon in a web; she also asked them to generate a list of questions about further information they would like to know about the moon. During the teacher's advanced preparation, she anticipated specific language that students might not know in the immersion language. She prepared prompt cards with the new language and illustrations as cues to meaning so that she was prepared for students' requests for language assistance as they worked in small groups. She did not use the cards as language drill, but rather as a tool ready to be used if the students needed this support. The small groups shared their webs as a class, summarizing their information about the moon into a larger web. They also compiled a list of class questions about the moon.

Students were ready to read the text after the teacher had surveyed and activated their prior knowledge. During the students' first reading, the teacher directed them to identify the main idea of the piece. During the students' second reading, the teacher directed them to identify and add new facts about the moon to their individual student copies of the class web.

The Reading Process - Determine the Purpose for Reading/ Read the Text

Students also were asked to note answers to any of the class' questions about the moon found in the text. During a third reading, students were requested to add new and specialized "moon language" to their personal dictionaries. Students were asked to read the expository text a fourth time to decide how the information presented could be reorganized and used by a travel agent to develop a brochure attracting vacationers to the moon in the year 2025.

Using the expository text, Say Cheese, Please, found in Appendix B, plan a series of multiple readings for a Grade 5 class. Or, you may prefer to plan multiple readings for an expository text that you have already identified to use with your class. Note the purpose for each reading and any tools, such as webs, that you will give your students to help them keep each individual purpose in mind as they read. If possible, discuss your activity with a colleague and/or try it out with your class.

As discussed in the preceding activities, multiple readings of the same text can serve diverse purposes. One very important objective when considering multiple readings is how to plan for students' exposure to a variety of oral language models.

Part 1 Activity 3

The Reading Process - Determine the Purpose for Reading/Read the Text

Because most immersion students do not have contact with speakers of the immersion language outside of the school setting, providing students with additional language models during multiple readings and during language arts activities is an important goal. Immersion teachers have options that range from planning for students to read to one another, to be read to by the teacher or other speakers of the immersion language, to mention just a few. It should be noted that reading aloud in the foreign language immersion class permits students to practice pronunciation, fluency of the language, and opportunities to match oral and printed language. Students' reading aloud **does not** help students' comprehension of a text and should **never** be used with that objective in mind.

When planning a series of multiple readings, consider the advantages of having students read aloud to each other or follow a text as they listen to an audio tape. Many experienced immersion teachers effectively use listening centers to provide students with a variety of language models; others pair classes, so that students read to one another; other teachers read aloud to students on a regular basis. In some programs, community members who speak the immersion language are invited to speak to students about curriculum-related topics. Field trips guided by speakers of the immersion language are planned. Of course, such reading and

Part 1 Activity 3 - continued

The Reading Process - Determine the Purpose for Reading/ Read the Text

reading-related activities always support a specific objective. The added advantage is that students have access to an additional language model.

I. List below your ideas and activities for providing students with a variety of language models during reading and language arts. Be specific. Think about including possible field trips, or outside speakers. If possible discuss your ideas with a colleague.

II. Using the expository text Say Cheese, Please, select an exposition objective from your grade level, and list below possible reading and language arts activities that would provide students with additional language models. If you wish, the exposition objective noted on the following page may be adapted to your grade level and your students. For example, Grade 3 students probably would need much more teacher guidance as they compiled and organized information than would students in Grades 5 or 6. In place of the text in Appendix B, you may wish to use an expository text in the immersion language that you will be using with your class.

Part 1 Activity 3 - continued

The Reading Process - Determine the Purpose for Reading/ Read the Text

Exposition objective - Using reference articles and other information sources, students will compile and organize information about the koala bears (or the main topic from the exposition text you have selected).

Part 1 Activity 4

The Reading Process - Synthesize Information

Immersion teachers, like all good teachers, need to keep in mind the importance of developing classroom activities that are relevant to students' lives outside the classroom.

Although the language of the immersion classroom is most likely different from the language students speak at home, the reading strategies that students learn, as well as the concepts they study and discuss should be applicable in any language. For example, if in the immersion classroom, students learn to ask themselves questions to search for specific information while reading, they probably will use this strategy while reading in any language. Students reading a novel written about the theme of steadfast versus passing friendships will understand these concepts in English even though they have read about them and discussed them in the immersion language. The important point for the immersion teacher to remember is that students should have opportunities in the classroom to explore and discuss the relevance of these concepts to life outside the classroom. Synthesis activities provide students with good opportunities to make this link.

A synthesis activity is one in which students combine concepts learned separately to present these concepts in a new different form. Synthesis activities should be such that students have the opportunity to relate classroom learning to their world outside the school setting. Applying and synthesizing concepts and abstract ideas makes them more meaningful to students. The special challenge for the immersion teacher is to anticipate language that students may not know and might need as they synthesize and apply new concepts.

For example, in the classroom students might be able to provide an accurate oral or written definitions of imports and exports. They might be able to describe the role of imports and exports in provoking events in a novel they are reading about the American Revolution. A next step for deeper understanding of these two concepts would be to develop an activity that would help them apply and extend understanding of these two concepts to their world outside of the classroom.

One experienced immersion teacher extended Grade 5 students' understanding of imports and exports by having students inventory items in their home environment that were either imports from other countries or made in the U.S.A., and therefore possible exports to other countries. She then asked students working in paired groups to invent a mother country and colony relationship. Subsequently, the mother country and the colony identified five export items and met to see if they could reach agreement on import/export trade agreements. After the mother country/colony meetings, the whole class discussed the successes and difficulties encountered as they tried to reach agreements to meet their respective needs. This activity provided an opportunity for application and deeper understanding of these concepts, and broadened the scope of

The Reading Process - Synthesize Information

language students needed to use to include items from their home environment that might otherwise not have been a part of their immersion language repertoire.

I. Continuing the example of the Grade 5 novel about the American Revolution in which the role of imports and exports is explored, list below other activities you might suggest that would assist students in synthesizing and relating these concepts to their lives outside of the classroom. If possible, discuss your ideas with a colleague.

II. Using the short narrative My Favorite Sea Monsters: Great White Shark or the same short narrative that you selected for Activity 1, list below one or more abstract concepts central to this text. Describe activities that might help students apply and synthesize these concepts, making them more relevant to students' lives. If possible, discuss these activities with a colleague.

Part 1 Activity 5

The Reading Process - The Physical Environment

The immersion classroom environment is to immersion language development what the home environment is to first language development. Because the majority of students in an immersion classroom are surrounded by English once they leave the classroom, it is of critical importance that the teacher take every opportunity to surround students with varied stimuli in the immersion language. This means that students are surrounded by a rich variety of print and nonprint materials, such as charts, signs, displays, illustrations, students' work, and learning centers. These materials should serve as information sources for students and should be designed to support all areas of the curricula and promote progress by integrating reading and language arts across the curricula.

I. Observe and note the components of the physical environment in a class--immersion or nonimmersion. What do your observations tell you about this classroom? What evidence is there that this is a classroom where reading and writing are valued and encouraged? The list of questions on the following page may assist you in your observation.

How is the furniture arranged?
Are there designated areas for special activities? What are they?
How are bulletin boards used?
How is wall space used?
How are print instructional materials housed/displayed?
What signs of motivation do you see that invite students to
be readers and writers?

Part 1 Activity 5

The Reading Process - The Physical Environment

Do you see student writing on display?
What signs do you see that reading for meaning is encouraged?

II. Use the grid on the following page to organize your observations. Evaluate what you observed in the physical environment by asking yourself: What items in this physical environment would facilitate becoming and continuing to grow as a good reader, writer and language user? You may wish to rate your observations using the following criteria:

√ an item that would neither help nor hinder students

+ an item that might help students be good readers, writers and language users

- an item that might hinder students from becoming good readers, writers and language users

Observation	Rating

Part 1 Activity 6

The Reading Process - Two Language Arts Curricula

Immersion teachers follow the same curriculum as nonimmersion classes. In the area of reading and language arts this means teaching the local school district's and the immersion reading and language arts curricula. The local school district's reading and language arts curriculum includes teaching objectives that are not language specific. For example, in a Grade 5 novel unit the objective that students will develop understanding of characters may be taught in any language.

In contrast, the immersion language scope and sequence outlines the second language students are expected to acquire each year, and the span of the program. Language growth is not something magic that "just happens", teachers must plan for it and the scope and sequence serves as a guide. By consulting the immersion language scope and sequence teachers know what has been taught and what they should teach.

Specific language objectives for reading and language arts lessons, as well as other content areas of the curriculum, should be identified during the planning process. There are two types of language objectives that teachers need to plan for:

- content-obligatory language
- content-compatible language

Part 1 Activity 6 - continued

The Reading Process - Two Language Arts Curricula

Content-obligatory language is language students need to understand a text, and the content objective of a lesson. These objectives are dictated by the curriculum. Content-compatible language is based on the second language scope and sequence and the teacher's analysis of areas where the students' language needs review and refinement. That is, content-compatible language is language that is not essential to understanding of the content objective but is often determined by activities planned to go with the lesson.

Because available reading materials are likely to include language that is new or unfamiliar to your students, you will have to decide which language should be highlighted for them. The language you highlight will depend on the importance of that language to students' understanding of the text. This is the content-obligatory language because students' understanding of this language is critical to their understanding of the material and the targeted objectives. If a text has so much new or unfamilar language that students cannot read it through without stopping in the middle of every sentence, you will want to consider using the text later in the year.

Part 1 Activity 6 - continued

The Reading Process - Two Language Arts Curricula

Let's revisit the Grade 5 novel unit example previously cited. One reading and language arts objective is that students will develop understanding of characters. While planning, the immersion teacher must ask, "What language must students be able to understand and use in order to read and understand the text and to:

- identify the character's traits or behaviors; (honest, brave, trustworthy)
- identify actions of the character which illustrate a specific trait or reflect a behavior?" (took a risk; defended his family name; intervened during the attack)

This is content-obligatory language for this lesson. These language objectives should be taught in the context of the lesson and should not be treated as isolated vocabulary to be memorized. For example, before students begin to read, using large photos and a short biography, the teacher might present two imaginary characters to the class. Character #1's photo and biography would give students clues that this character is dishonest, cowardly, and untrustworthy, while Character #2's photo and biography would give students clues that this character is honest, brave, and trustworthy. Students could work in groups to brainstorm a list of words describing each character as well as justification from the biographies for their descriptions.

Part 1 Activity 6 - continued

The Reading Process - Two Language Arts Curricula

If the content-obligatory language to be taught is totally new, the teacher may introduce and record it during the class discussion of each character. Once the discussion is finished, leave photos and biographies of the invented characters on display along with students' lists of language describing each character. The content-obligatory language will provide students with an accessible print reference and appropriate context clue to the meaning of this new language

While content-obligatory language is determined by the content objectives, content-compatible language is based on the immersion language scope and sequence and teacher's analysis of areas where students' language needs review and refinement. Content-compatible language is often determined by activities planned to go with the lesson.

Because the second language scope and sequence identifies teaching of similes as a Grade 5 objective, the teacher has decided to plan an activity during which students will be required to write a simile describing a character trait of the main character (honest, brave, and trustworthy). Students should be provided with examples, based on the two imaginary characters used to introduce the content-obligatory language to the class.

Character #1 was described as: "She was as sly as a fox." The class was asked to brainstorm possible comparisons for other character traits for Character #1--cowardly and untrustworthy. In pairs, students write as many similes for Character #1 as they can think of to share with the class. The teacher records their similes on chart paper and the class discusses the images brought to mind by the various similes. The following day, after a short review of the similes and the main character's traits, students brainstorm possible comparisons for honest, brave, and trustworthy. The teacher adds some language based on an assessment of students' needs. This language is the content-compatible language for this lesson. It is based on three factors: the immersion language scope and sequence, teacher judgement about student needs and the activity developed by the teacher. Because content-compatible language objectives reflect teacher's choice of activities that support the content, another activity that would have necessitated other language could have been developed.

Part 1 Activity 6 - continued

The Reading Process - Two Language Arts Curricula

I. Discuss with colleagues the progression of second language development that is reflected in your school district's immersion language scope and sequence. If the local school district does not have an immersion language scope and sequence, make a list of language functions (purposes or language tasks, such as requesting information, describing, persuading, or expressing preferences), grammar, and categories of vocabulary that you think are more appropriate for the grade level that you are, or will be, teaching.

II. Identify the language arts objectives that would be most appropriate to teach through the short narrative My Favorite Sea Monsters: Great White Shark, or the text you have selected to use for activities in this manual. For a short narration an objective dealing with characters, setting, problems and solutions might be targeted. If you choose to identify the language objectives for the expository text Say Cheese, Please, or one that you will use with your class, identifying factors that served as the cause of an event might be targeted. Once you have identified the content objectives note them on the following page. Note also the content-obligatory and content-compatible language objectives that would be targeted at the same time.

Part 1 Activity 6 - continued

The Reading Process - Two Language Arts Curricula

Content objectives:

Content-obligatory language objective

Content-compatible language objectives

Part 1 Activity 7

The Reading Process - Materials Selection

Selection of appropriate print materials for the immersion classroom is a challenging task. More often than not it is the immersion teacher who makes these decisions. Therefore, it is important to think about and establish criteria for selecting print materials in order to obtain the best that is available for classroom use. When selecting materials to use in teaching reading and language arts there are five aspects of the texts that teachers must examine. They are:

Language

Is the level of language appropriate for the students?
If the text is a translation, is it an accurate one that includes correct usage of the language?
Is there an authentic literature text available that might be used in place of the translation?

Illustrations

Are the illustrations relevant to the text?
Are the illustrations clear?
Are the illustrations authentic?
Will students find the illustrations attractive?

Format

Is the format used to present the materials easy to follow?

Cultural information

Does the text contain accurate cultural information?
Does the text promote cultural understanding?

Curriculum

How well do the materials support curricular objectives?

Part 1 Activity 7 - continued

The Reading Process - Materials Selection

I. With a colleague, brainstorm criteria in addition to those previously mentioned (illustrations, format, cultural information, and curriculum). Decide which ones you might include in a grid to evaluate and select materials for teaching reading and language arts in upper-grade (3-6) immersion classes. Some ratings you may want to use are:

- SATISFACTORY/UNSATISFACTORY
- EXCELLENT/ADEQUATE/POOR
- VERY GOOD/SATISFACTORY/MARGINAL/UNSATISFACTORY
- HIGHLY RECOMMENDED/RECOMMENDED/MARGINAL
- NOT RECOMMENDED/DISAPPROVED

II. Now, decide which criteria and which ratings you want to include in your grid. Use this grid to assist you in identifying or disqualifying available texts. You will find a blank grid for your use on the following page.

III. Once you have a draft grid, select a text written in the immersion language and evaluate it using your grid.

Materials selection is discussed in greater detail in the video program and Teacher's Activity Manual "Planning for Instruction in the Immersion Classroom". If you wish to explore this topic in greater depth, it is recommended that you consult these materials.

EVALUATION OF INSTRUCTIONAL MATERIALS

Criteria	Ratings				

PART II

THE WRITING PROCESS

PLEASE NOTE

The following section of this manual presents an overview of the writing process--a complex approach to teaching students to write. Neither the video program nor the activities presented in this manual can comprehensively cover this topic, nor are they intended to. The intent of the video program and the manual is to suggest strategies for implementation of the writing process in the immersion classroom to immersion teachers.

If you are unfamiliar with the writing process, it is **strongly** recommended that you consult some of the following resources and observe experienced immersion and nonimmersion teachers as they teach their students to write using this approach.

List of resources:

Coming to Know: Writing to Learn in the Intermediate Grades, Nancie Atwell, ed. Portsmouth, NH: Heinemann Educational Books, 1990.

Writing: Teachers & Children at Work, by Donald H. Graves. Portsmouth, NH: Heinemann Educational Books, 1983.

Whole Language: Theory in Use, Judith M. Newman, ed. Portsmouth, NH: Heinemann Educational Books, 1985.

Part 2 Activity 1

The Writing Process

Writing, like reading, is best learned by doing and best taught by involving students in the process. Writing, like reading, is not an isolated subject to be taught separately from other content areas of the curriculum. Writing and reading are related skills and students need to experience the strong relationship that exists between them and with all areas of the content.

Immersion teachers guide their students through the following steps in the writing process:

Prewriting
Writing the first draft
Revising
Editing
Publishing

As in teaching reading, immersion teachers are the models for written and spoken language, throughout the entire writing process.

During the first step, the **prewriting phase**, immersion teachers assist students in identifying the purpose for writing and the audience for whom they are writing. This is also the phase during which students identify the specific topic about which they will write.

Part 2 Activity 1 - continued

The Writing Process

Experienced immersion teachers tell us that planning content-related field trips, or classroom experiences to be used as the focal point for writing, is a good way to review and teach students language they will need to write about a particular topic. Planning activities that involve students in hands-on activities is an ideal approach to reviewing and learning language in context. These experiences equip students with some of the language they will need as they write, and thus avoid problems when students have limited immersion language relating to a specialized topic. After such class experiences, students may be given a wide range of choices when asked to select a specific topic to write about.

Another natural source of writing topics is what students are reading. Because reading and writing are closely related, letting writing grow out of reading makes new and familiar language readily accessible to student-authors.

Like most authors, students usually are more enthusiastic when they write about a topic they have selected or one that relates to an event in which they have participated. You can help students identify a range of topics during the prewriting phase by asking them to first brainstorm and then discuss possible ideas for writing as a class and in small groups.

Part 2 Activity 1 - continued

The Writing Process

Of course, you, the teacher, are always available as a resource for ideas and language as students select a topic, identify their audience and purpose for writing. However, the advantages of students working together in pairs or small groups during the prewriting experience are numerous. Students consult each other for both ideas and language that they may need. Listening and speaking skills of students are enhanced as they explain their thoughts and ideas; they clarify what they want to say and how they want to say it.

You also will need to provide students with guidance and modeling, and remind them that both the topic and the audience they select will directly influence the language they use to compose their piece. For example, a friendly letter to an acquaintance will not contain the same language, nor follow the same format, as a business letter to a manufacturer requesting information about a product. Because the immersion classroom and the elementary curriculum do not always provide a natural opportunity to teach differentiated forms of address, it is up to immersion teachers to seek out opportunities and consciously plan to teach students how and when to use correct forms of direct address in more formal situations.

After students have completed the prewriting phase, the next step is for them to **write the first draft**. Students must understand that the purpose of this is to get their ideas down on paper. Students' energies should be directed towards putting pen to paper to record thoughts and ideas. Organization, spelling, and punctuation will be looked at more closely later on in the process.

Once students have written the first draft, the next step is **revising**. This phase in the process includes refining thoughts, improving organization, and changing wording. Once again, students' listening and speaking skills will benefit from working in response groups--pairs and groups of students who provide and receive feedback about ideas, organization, use of language, and choice of words. As always, the teacher should be available to serve as a model and provide language support and monitor on-task behavior.

During the next phase, **editing**, students incorporate suggestions received from their response groups as they revise their first draft. Students' revised work is reviewed once again with assistance and input from teachers and peers. Based on these additional comments and suggestions, students edit their work, giving careful attention to polishing ideas and organization as well as to writing mechanics, such as punctuation and spelling.

During the revising and editing phase, it's a good idea to focus students' attention on a limited number of points rather than expecting students to "fix it all." For example, based on your review of students' writings about the role of taxation as a factor that led to the Revolutionary War, you note that many students are using punctuation incorrectly to indicate dialogue, and need a review of the correct prepositions to indicate whether a person is going to, resides in, or is leaving a particular city or geographical region. A minilesson about these two points, taught to students whose work reflects a need for instruction, is an effective way of integrating grammar instruction into a meaningful context. Limiting the number of points on which you want students to concentrate will help them focus their attention and efforts.

Negotiation of meaning plays a key role in the revising and editing phases of the writing process. Negotiation of meaning is an interactive process through which teachers and students work together collaboratively to communicate their ideas effectively. During the writing process this means teachers and students work together to make sure that the meaning of the written message is accurate. Student-authors need to make sure the language they have chosen accurately communicates their thoughts and ideas. Teachers and peers need to question student-authors about what they are trying to say, and give suggestions about other ways of expressing ideas. This give and take helps students refine and stretch language, as well as the ideas they want to express.

Part 2 Activity 1 - continued

The Writing Process

The final step in the writing process is **publishing,** or sharing student-authors' works with an audience. Publication might mean placing a hand written copy in the media center where it is available to be read by other students; it might mean sharing a student's work in a school newspaper or literary magazine. Providing students with a forum to read their work aloud, such as a school or grade-level assembly, is another form of "publication." Whether students' work is shared in writing or orally, the process of presenting a finished piece to an audience gives value to the time and effort that have gone into producing it.

On the following pages is an example of how one experienced immersion teacher guided students through the writing process while focusing attention of the class on a social studies objective. You may find it helpful to review this example before you begin the activities in this section of the manual.

Part 2 Activity 1 - continued

The Writing Process

EXAMPLE:

Grade 5 social studies objective: Identify land and water routes traveled by frontier people.

The focus of this objective is the historic period from 1840 until 1860, the period that includes major movement of settlers to Oregon, because of the attraction of the land, and to California because of the attraction of gold. The teacher decides to compare and contrast two major overland trails with two alternative water and water-land routes. The overland trails were the Oregon Trail from Independence, Missouri to Fort Vancouver, Oregon; and the California Trail from Independence, Missouri to Sacramento, California. The alternate routes were the water route travelers took by clipper ships from the east coast around South America to the west coast port of San Francisco; and the route followed via clipper ships from the east coast, south to the Isthmus of Panama, west across the Isthmus by wagon or on foot, continuing their journey via clipper ship to San Francisco. While railroads were fairly well established by 1850, they served primarily the eastern portion of the United States, and therefore were not included in this objective.

During the prewriting phase, the teacher plans three different activities, described below.

Prewriting Phase

- The teacher divides the class into cooperative groups of students, three to four students per group. Each cooperative group is a family about to make the westward journey with $1,000 as resources. Each group receives a map of North and South America with the possible routes clearly marked. First students will read, and then read and listen to an audiotape of several travelers' descriptions of their westward journey. One traveler describes the overland journey following the Oregon Trail to Fort Vancouver; a second traveler describes the journey via clipper ship around the tip of South America to the port of San Francisco; and a third traveler describes the journey via clipper ship from the east coast to the

The Writing Process

Isthmus of Panama, across the Isthmus of Panama on foot, and up the coast by clipper ship to the port of San Francisco. Included in the description of the overland journey are excerpts of journals of pioneers who traveled by wagon and those who traveled on foot. "Family groups" of students are given two lists of necessary items and expenses for their journey to the west coast--one list of items for the overland route and one for the water route. The family groups must discuss the pro's and con's of each route considering the descriptions they have read and listened to, the modes of transportation available, and the expenses they must incur. Students make a list of the advantages and disadvantages of each route and each mode of transportation. Once a family has selected the route they wish to follow, they must justify their choice with a list of reasons.
(This prewriting experience may lead to a narrative, a persuasive or procedural writing piece.)

- The teacher provides students with a map of North and South America from the historical period 1840 to 1860. The map depicts the Oregon Trail overland route and the water route around the tip of South America. Using the scale indicated on the map, students calculate the total distance traveled overland as compared with the total distance traveled by water. Students calculate the daily average distance covered by land and by water. Their calculations are based on the information that the average land journey was completed in 8 months and the average water journey was completed in 7 months (6-8 months = average). Once students calculate these daily averages, they mark the travelers' weekly progress on a map.
(This prewriting experience could lead to a procedural or a narrative writing piece.)

- The teacher provides students with a topographical map of North and South America with the land (including the Isthmus of Panama) and water routes clearly marked. In addition, students have charts that indicate climatic conditions (temperature and precipitation) for various regions traversed during journeys to the west coast. In pairs, students discuss and identify two portions of the journey they think would be the most

Part 2 Activity 1 - continued

The Writing Process

difficult. Students justify their choices, hypothesizing what factors they believe might make these two portions of the journey particularly challenging, such as the terrain, lack of food and water, harsh weather, or disease. (This prewriting experience could lead to an expository or a narrative writing piece.)

After students participate in these prewriting experiences, the teacher asks them to brainstorm ideas for writing about the land and water routes traveled by the pioneers from 1840-1860. Once students have ample opportunities to discuss which topic they want to write about, they also identify their audience.

The class generates a list of possible kinds of texts and intended audiences to include:

- newspaper article(s) to the general public in Independence, Missouri, describing the activities at the pioneer encampment as travelers awaited departure of their wagon train
- letters to family members back in a New England settlement from a pioneer traveling west via the overland route or via the water route
- advertisements to prospective pioneers to reserve places in a wagon train
- advertisements to prospective pioneers to reserve places on a clipper ship
- journal entries by a pioneer (man, woman, or child) during a journey by wagon, on foot or via clipper ship
- wagon master's notes or clipper ship captain's log of: daily events, distances covered, description of terrain and weather, etc.
- wagon master's or clipper ship captain's daily checklist of procedures and important items to be verified
- wagon master's or clipper ship captain's itinerary

The Writing Process

The class discusses how the language and tone of the writing is different for each of the texts and audiences on the list. Several students want to write for an audience not listed. They request permission to do so and the teacher accepts their proposed audiences. Now the students are ready to write.

Writing

During several class periods, students are given extended periods of time during which the entire class, including the teacher, write their first draft. Resources, such as encyclopedias and dictionaries, are readily available in the immersion language. Students are advised not to worry about form but to concentrate on recording their thoughts and ideas.

Revising

Working in small response groups, each student has the opportunity to read his/her work aloud. Students follow a procedure that had been modeled for them and that they have practiced as a class--Praise, Question, and Polish. First, students react with praise, such as, "I like how you describe the traveling conditions of the pioneers. You use a lot of descriptive language." Next come questions to clarify points that students don't understand, such as, "You never mention how long the travelers have to wait for transportation on a clipper ship once they crossed the Isthmus of Panama, and how much they had to pay." Then suggestions for polishing a piece are offered such as, "Perhaps you could describe the conditions of the camp where the pioneers had to wait for passage on a clipper ship." Student-authors consider the comments of their response group and incorporate changes that they feel will improve their piece.

Editing

Once again working in response groups, students assist each other in refining their work. Careful attention is given to polishing ideas, tightening organization, and correcting specific mechanical features. The teacher conducts several minilessons focusing on language use, differentiation between the familiar and the formal form of address for "you"; comparison of the imperfect and the simple past verb tenses.

Part 2 Activity 1 - continued

The Writing Process

Publishing

Students classify their writing pieces to be part of two publications: a guidebook with advice and factual information for pioneers considering travel to the west coast via the overland trails, and a second guidebook for pioneers considering travel to the west coast via the water route, or the water route and the crossing of the Isthmus of Panama. The two publications are placed in the media center to be read and used as resources by other Grade 5 immersion classes.

Part 2 Activity 1 - continued

The Writing Process

I. Listed below are two Grade 5 social studies performance objectives, from the unit Westward Movement. Select one of the objectives and note your ideas of different writing topics and intents (narrative, persuasive, expository or procedural - See Appendix D) that focus on the selected objective. Also note any field trips or in-class experiences that might enhance students' concept and language development and be used as prewriting experiences. You may wish to select other social studies objectives from your grade-level curriculum. A planning sheet is found on the following page.

Objectives:

1. *Name types of land travel*
2. *Identify ways the development of the railroad revolutionized transportation*

II. Identify a writing intent (narrative, persuasive, expository or procedural - see Appendix D), and the grade level you will most likely be teaching. Describe how you would guide students through each of the steps in the writing process on the planning sheet found on page 57.

Part 2 Activity 1 - continued

The Writing Process

Objective:

Topics	Intents	Audience

Pre-writing experiences

Part 2 Activity 1 - continued

The Writing Process

Writing Process Planning Sheet

Objective

Writing Intent | Topic | Audience

Pre-writing

First draft

Revising

Editing

Publishing

BACKGROUND READING

Becoming a Nation of Readers:

The Report of the Commission on Reading

The National Academy of Education

The National Institute of Education

The Center for the Study of Reading

Excerpted from the publication A Nation of Readers: The Report of the Commission on Reading, by The National Academy of Education, The National Institute of Education, and The Center for the Study of Reading. This material is in the public domain.

What Is Reading?

Substantial advances in understanding the process of reading have been made in the last decade. The majority of scholars in the field now agree on the nature of reading: Reading is the process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated sources of information.

Reading can be compared to the performance of a symphony orchestra. This analogy illustrates three points. First, like the performance of a symphony, reading is a holistic act. In other words, while reading can be analyzed into subskills such as discriminating letters and identifying words, performing the subskills one at a time does not constitute reading. Reading can be said to take place only when the parts are put together in a smooth, integrated performance. Second, success in reading comes from practice over long periods of time, like skill in playing musical instruments. Indeed, it is a lifelong endeavor. Third, as with a musical score, there may be more than one interpretation of a text. The interpretation depends upon the background of the reader, the purpose for reading, and the context in which reading occurs.

How does the process of reading occur? A common view that reading is a process in which the pronunciation of words gives access to their meanings; the meanings of the words add together to form the meanings of clauses and sentences; and the meanings of sentences combine to produce the meanings of paragraphs. In this conception, readers are viewed as always 'starting at the bottom' - identifying letters - and then working up through words and sentences to higher levels until they finally understand the meaning of the text.

However, research establishes that the foregoing view of reading is only partly correct. In addition to obtaining information from the letters and words in a text, reading involves selecting and using knowledge about people, places, and things, and knowledge about texts and their organization. A text is not so much a vessel containing meaning as it is a source of partial information that enables the reader to use already-possessed knowledge to determine the intended meaning.

Reading is a process in which information from the text and the knowledge possessed by the reader act together to produce meaning. Some aspects of this interaction can be illustrated with the following passage:

> When Mary arrived at the restaurant, the woman at the door greeted her and checked for her name. A few minutes later, Mary was escorted to her chair and was shown the day's menu. The attendant was helpful but brusque, almost to the point of being rude. Later, she paid the woman at the door and left.[1]

The first phrase will lead readers to expect that their existing knowledge of restaurants will be relevant. That is to say, the word "restaurant" brings to mind past associations and experiences with restaurants and the interrelations among these ideas. From there, reading is easy because of the expectations that come from this knowledge. The woman at the door is taken to be the hostess. Mary must sit at a chair at a dining table before she can eat. The "attendant" is probably the waiter or waitress, and the person referred to as leaving in the last sentence is probably Mary. These are all inferences that make use of both the information presented in the text and the knowledge the reader already has about restaurants.

Good readers skillfully integrate information in the text with what they already know. However, immature readers may depend too much on either letter by letter and word by word analysis or too much on the knowledge they already have about the topic.[2]

Some children laboriously work their way through texts word by word, or even letter by letter (e.g. m.m-M-a-r-y). They are so intent on saying the words right that they miss aspects of the meaning. In oral reading, these children tend to make nonsensical errors that look or sound like the words they are trying to read with results such as, ' 'The woman at the door *grated* her and *locked* for her name."[3] These children sometimes fail to use the knowledge they may have about the topic think about what they are trying to read.

Other immature readers show an overreliance on the knowledge they already have about the topic. Such children may use pictures, titles, their imagination, and only a small amount of information in the text to produce a believable story.[4] For example, "... and then Mary got to the... ah... pizza place. She went in the door and greeted her friend. Then she sat down in her chair and had a pizza." These children often do not have enough skill at word identification to make use of all of the information in the written message.

Five generalizations flow from the research of the past decade on the nature of reading:

The first generalization is that *reading is a constructive process.* No text is completely self-explanatory. In interpreting a text, readers draw on their store of knowledge about the topic of the text. Readers use this prior knowledge to fill in gaps in the message and to integrate the different pieces of information in the message. That is to say, readers "construct" the meaning. In the restaurant example, the reader is able to infer that Mary sat at a table, selected her meal from the menu, and was probably served by the attendant. Yet none of this information is expressly mentioned in the text. These details are constructed from the reader's other knowledge of restaurants.

The meaning constructed from the same text can vary greatly among people because of differences in the knowledge they posess.[5] Sometimes people do not have enough knowledge to understand a text, or they may have knowledge that they do not use fully. Variations in interpretation often arise because people have different conceptions about the topic than the author supposed.

Some children may completely lack knowledge on a particular topic, others may know something, while still others may know a lot. Research shows that such differences in knowledge influence children's understanding. For example, in one study, second-grade children equivalent in overall reading ability were given a test of knowledge about spiders prior to reading a selection about spiders.[6] Then they were asked questions about the selection. Children who were more familiar with spiders were significantly better at answering the questions, particularly questions that required reasoning.

Research reveals that children are not good at drawing on their prior knowledge, especially in school settings.[7] They may know something relevant, but yet not use it when trying to understand a passage. These failures are more likely to happen when understanding the passage requires children to extend their knowledge to a somewhat different situation. Even a subtle difference between a child's interpretation and the "right" adult interpretation can give rise to the impression that the child doesn't understand the material.

The second principle is that *reading must be fluent.* The foundation of fluency is the ability to identify individual words. Since English is an alphabetic language, there is a fairly regular connection between the spelling of a word and its pronunciation. Every would-be reader must "break the code" that relates spelling to sound and meaning. Research suggests that, no matter which strategies are used to introduce them to reading, the children who earn the best scores on reading comprehension tests in the second grade are the ones who made the most progress in fast and accurate word identification in the first grade.[8]

"Decoding" a word - that is, identifying its pronunciation and meaning - involves more than letter by letter analysis. It has been known since late in the 19th century that short, familiar words can be read as fast as single letters and that, under some conditions, words can be identified when the separate letters cannot be.[9] These facts would be impossible if the first step in word identification were always identification of the constituent letters and their sounds. More recently, it has been shown that a meaningful context speeds word identification.[10] For instance, *nurse* is more readily identified if it is preceded by *doctor*. Again, this is a fact that is impossible to square with the common theory that word identification consists of letter by letter decoding.

All of the known facts are understandable within the generally-accepted current model of word identification.[11] According to this model, a possible interpretation of a word usually begins forming in the mind as soon as even partial information has been gleaned about the letters in the word. The possible interpretation reinforces the analysis of the remaining information contained in the letters. When enough evidence from the letters and the context becomes available, the possible interpretation becomes a positive identification. This all happens very quickly, within 250 milliseconds on the average, when the reader is skilled.[12]

Readers must be able to decode words quickly and accurately so that this process can coordinate fluidly with the process of constructing the meaning of the text. One piece of evidence that this is so is that good readers are consistently much faster than poor readers at pronouncing pseudowords that have regular English spellings, such as *tob* and *jate*.[13] People with more than fourth-grade reading ability make almost no mistakes with regular pseudowords. What distinguishes good and poor readers in this case is speed, not accuracy. What this fact means is that typically poor readers have barely mastered spelling-to-sound patterns, whereas good readers have a command that goes beyond simple mastery to automaticity.

Interestingly, it does not appear that skilled readers identify unfamiliar words by rapidly applying "rules" governing the relationships between letters and sounds. Instead, research suggests that they work by analogy with known words.[14] Thus, for example, the pronunciation of *tob* may be worked out from knowledge of the pronunciation of *job* plus a notion of the initial sound of words beginning with *t*. One piece of evidence in support of the decoding-by-analogy strategy is the fact that pseudowords such as *mave*, which have conflicting possible analogies, such as *have* and *wave*, are pronounced more slowly than other pseudowords, and are sometimes pronounced with a short *a* like *have* and are sometimes pronounced with a long *a* like *wave*. Notice that for the process to work the reader need not have any specific knowledge of the difference between long and short *a*'s, only an adequate vocabulary of actual words and a command of the analogy strategy.

Decoding skill must develop to the point where it is automatic and requires little conscious attention. The reader's attention must be available to intepret the text, rather than to figure out the words. Immature readers are sometimes unable to focus on meaning during reading because they have such a low level of decoding skill. They are directing most of their attention to sounding out words letter by letter or syllable by syllable.[15] Even skilled readers show much less understanding of what they read when forced to attend to the surface features of written material.[16]

Consider, for example, the way a young child might read the first sentence of the restaurant passage:

> When Mary arrived at the r, ruh, ruh, ruh-es-tah, oh! restaurant! When Mary arrived at the... rest... restaurant...

Restaurant is a difficult word for this child, and he or she requires several attempts to decode it. By this time, the child's memory for the earlier part of the phrase has faded and he or she has to reread the words to try and create a coherent meaning.

Available figures suggest that an average third grader can read an unfamiliar story aloud at the rate of about 100 words per minute.17 The corresponding rate for poor readers at this level is 50 to 70 words per minute. According to one group of scholars, this rate is "so slow as to interfere with comprehension even of easy material, and is certainly unlikely to leave much ... capacity free for developing new comprehension abilities."[18]

The third principle is that *reading must be strategic*. Skilled readers are flexible. How they read depends upon the complexity of the text, their familiarity with the topic, and their purpose for reading. Studies show that immature readers lack two strategies used by skilled readers:

Assessing their own knowledge relative to the demands of the task, and monitoring their comprehension and implementing fix-up strategies when comprehension fails.[19]

Skilled readers are aware that there are different purposes for reading and that they must change the way they read in response to these purposes. For instance, they know that reading for enjoyment does not require detailed understanding, while reading for a test may. In one study, third and sixth graders were asked to read two stories, one for fun and the other in preparation for a test.[20] The skilled readers adjusted their reading strategies for the two stories; the immature readers didn't. As a result, the immature readers did not remember any more of the story they were supposed to study than the one they were supposed to read for fun.

Perhaps because they frequently do not see the point of reading, poor readers often do not adequately control the way they read. One aspect of such control is being able to monitor ones own reading and notice when failures occur. To investigate this, researchers have placed inconsistent information in passages to see whether readers can detect it. Here are examples of consistent and inconsistent passages:

> All the people who work on this ship get along very well. The people who make a lot of money and the people who don't make much are still friends. The officers treat me as an equal. We often eat our meals together. I guess we are just one big happy family.

> All the people who work on this ship get along very well. The people who make a lot of money and the people who don't make much are still friends. The officers treat me like dirt. We often eat our meals together. I guess we are just one big happy family.[21]

Skilled readers readily detect the inconsistency in the second passage. Younger or less able readers are not as likely to notice the problem and usually say that the passage makes sense.[22]

Another aspect of control during reading is being able to take corrective action once a failure in understanding has been detected. Skilled readers know what to do if they have difficulty. There are a number of options available: Keeping the problem "on hold", in the hope that it will be clarified later in the text; rereading parts of the text; looking ahead; or seeking help from outside sources. In one study, researchers asked second and sixth graders questions about their strategies for coping with failures to understand.[23] Older and better readers said that, for instance, if they did not know the meaning of a word they would ask someone else or go to a dictionary. Poorer readers were unable to say what they would do. These reports have been confirmed by actually observing children. In another study, fourth graders were asked to read and remember a story containing some difficult words.[24] They were given paper, a pencil, and a dictionary and told that they could ask questions. As expected, the good readers asked questions, took notes, and used the dictionary. The poor readers used these aids infrequently.

Throughout this report, the idea that skilled reading needs to be strategic will be emphasized. This means that the reader monitors progress in understanding, and resolves problems that prevent understanding.

The fourth principle is that *reading requires motivation*. As every teacher knows, motivation is one of the keys to learning to read. It will take most children several years to learn to read well. Somehow, their attention must be sustained during this period and they must not lose the hope that eventually they will become successful readers.

Reading itself is fun. At least, it is for many children who are skilled readers for their age and for some children with average and below average skill. These children are, as the saying goes, "hooked on books." Increasing the proportion of children who read widely and with evident satisfaction ought to be as much a goal of reading instruction as increasing the number who are competent readers. As will be detailed in the chapter on Extending Literacy, an essential step in reaching that goal is providing children ready access to books that are interesting to them.

Reading instruction can be boring. Aspects of the standard reading lesson are monotonous. Many of the tasks assigned to children in the name of reading are drudgery. Thus, it is not surprising that in one study, for instance, interviews with a sample of poor, black children reading a year above grade level indicated that most liked to read, but few liked the activities called "reading" in school.[25]

Teachers who maintain high levels of motivation conduct fast-paced and varied lessons. Tasks are introduced with enthusiasm and with explanations of why doing them will help one become a better reader. Teachers whose classes are motivated are described as business-like but supportive and friendly. Children taught by teachers rated as having these traits make larger-than-average gains on reading achievement tests.[26]

Failure is not fun. Predictably, poor readers have unfavorable attitudes toward reading. What is not so predictable is whether lack of proficiency in reading stems from unfavorable attitudes or whether it is the other way around. Probably the truth can lie in either direction.

Poor readers frequently are listless and inattentive and sometimes are disruptive. They do not complete work. They give up quickly when faced with a task that is difficult for them. They become anxious when they must read aloud or take a test. A good summary description is that they act as though they were helpless to do better.[27]

The etiology of this sense of helplessness is not completely understood, but it is known that it is affected in sometimes subtle ways by teachers' behavior. It might be thought an act of kindness to express pity when students flub a test, but the hidden message may be that they lack the ability to do any better, that they are not in control of their own fate. An expression of dissatisfaction, on the other hand, may convey the message that the students could do better if they tried harder. People can control effort; people in control, even ones doing poorly, are not helpless.[28]

Effective reading teachers convey by word and deed that everyone can learn to read, if they pay attention and apply themselves. In their classrooms, effort pays off. Research establishes that these teachers assign reading material on which children experience a high rate of success.[29] However, effective teachers do not offer praise indiscriminately. Praise is given in recognition of noteworthy success at a task that is difficult for *this* student. The statement of praise specifies what the student did well, attributes the success to ability and effort, and implies that similar successes are attainable in the future.[30]

Though sustained motivation is essential for learning to read, it should be cautioned that poor motivation is not the only problem, or even the most important problem, faced by poor readers. Experience indicates that even under the best of conditions some percentage of children wiil have difficulties in learning to read. A detailed discussion of what may be the root causes of these difficulties is beyond the scope of this report. It can be asserted with some confidence, nonetheless, that the approaches to reading outlined in this report can help to ameliorate the difficulties faced by very poor readers.

The fifth principle is that *reading is a continously developing skill.* Reading, like playing a musical instrument, is not something that is mastered once and for all at a certain age. Rather, it is a skill that continues to improve through practice. The process begins with a person's earliest exposure to text and a literate culture and continues throughout life.[31]

A good rule of thumb is that the most useful form of practice is doing the whole skill of reading - that is, reading meaningful text for the purpose of understanding the message it contains. This fact poses a problem for the beginner. How can a child practice reading without already being able to read?

One or more of several strategies are used to get a beginner started reading. A natural strategy is to use familiar stories that are readily understandable to the child, or maybe even partly known by heart. A common strategy is to severely restrict the vocabulary of the first selections a beginner will read. Another useful strategy is to teach the beginner something about the relationships between letters and sounds.

Like instruction in other complex skills, reading instruction most often takes the form of explanation, advice, coaching, and practice on what are judged to be the essential aspects or parts of the process. The test of the value of this instruction is whether the child's reading as a whole improves. Thus, in a well-designed reading program, mastering the parts does not become an end in itself, but a means to an end, and there is a proper balance between practice of the parts and practice of the whole. In summary:

- Skilled reading is constructive. Becoming a skilled reader requires learning to reason about written material using knowledge from everyday life and from disciplined fields of study.
- Skilled reading is fluent. Becoming a skilled reader depends upon mastering basic processes to the point where they are automatic, so that attention is freed for the analysis of meaning.
- Skilled reading is strategic. Becoming a skilled reader requires learning to control one's reading in relation to one's purpose, the nature of the material, and whether one is comprehending.
- Skilled reading is motivated. Becoming a skilled reader requires learning to sustain attention and learning that written material can be interesting and informative.
- Skilled reading is a lifelong pursuit. Becoming a skilled reader is a matter of continuous practice, development, and refinement.

Emerging Literacy

This chapter details the critical first steps in learning to read. The first major section describes the role played by experience with reading and language in the home. The second major section deals with reading instruction in the kindergarten. The third major section deals with systematic reading instruction. Systematic reading instruction begins no later than the first grade, and, today, may begin in kindergarten.

Reading and the Home

Reading begins in the home. To a greater or lesser degree, depending upon the home, children acquire knowledge before coming to school that lays the foundation for reading.[1] They acquire concepts for understanding things, events, thoughts and feelings, and the oral language vocabulary for expressing these concepts. They acquire the basic grammar of oral language.

To a greater or lesser degree, children acquire specific knowledge about written language before coming to school. Some children even learn to read at home. Almost all children learn something about the forms of stories, how to ask and answer questions, and how to recognize a few, or sometimes many, letters and words.

Early development of the knowledge required for reading comes from experience talking and learning about the world and talking and learning about written language. Once children are in school, parents' expectations and home language and experience continue to influence how much and how well children read.

Talking and Learning About the World

Reading depends upon wide knowledge.[2] The more knowledge children are able to acquire at home, the greater their chance for success in reading. For example, many textbooks have selections about history and nature. Even understanding simple stories can depend on having common and not so common knowledge. Children who have gone on trips, walked in parks, and gone to zoos and museums will have more background knowledge relevant to school reading than children who have not had these experiences.

Wide experience alone is not enough, however. The way in which parents *talk* to their children about an experience influences what knowledge the children will gain from the experience and their later ability to draw on the knowledge when reading. It is talk about experience that extends the child's stock of concepts and associated vocabulary.[3]

The content of statements and questions and the manner in which they are phrased influence what children will learn from experience. Questions can be phrased in ways that require children merely to put some part of an experience into words or they can be phrased in a thought-provoking manner. For example, one parent may ask a child, "What do you see under the windshield wiper?, while another may ask, "Why do you think there's a slip of paper under the windshield wiper?"

Research suggests that it is important for parents to encourage children to think about events removed from the immediate here and now.[4] In some homes, conversations center around ongoing events. For example, the topic of conversation may be the clothes the child is putting on or the food that is being eaten for dinner. In other homes, parents often ask children to describe events in which the parents did not participate, such as a nursery school outing or a visit to a friend's home. This appears to require children to exercise their memories, to reflect on experience, and to learn to give complete descriptions and tell complete stories.

Children who have extended conversations at home that make them reflect upon experience learn to construct meaning from events. They have a subsequent advantage in learning to read. A long-term study that followed children from age one to seven found that the content and style of the language parents used with their children predicted the children's school achievement in reading.[5]

Talking and Learning About Written Language

While a rich background of experience and the oral language facility to discuss this experience provide an essential foundation, the specific abilities required for reading come from immediate experience with written language. The principle that children learn to read by being taught to read is as true at home as it is in school. The most effective mode for instruction in the home, however, may take a different form than it does at school.

The single most important activity for building the knowledge required for eventual success in reading is reading aloud to children.[6] This is especially so during the preschool years. The benefits are greatest when the child is an active participant, engaging in discussions about stories, learning to identify letters and words, and talking about the meanings of words. One researcher who observed parents reading books to their children discovered differences in the quality and quantity of informal instruction that the parents provided.[7] Some parents asked questions similar to those that teachers ask in school. Thus, their children had experience playing school-like question and answer games. These parents also related the episodes in books to real life events. For example, if parent and child saw a rabbit, the parent might compare the event with one in a book such as *Peter Rabbit*.

Other parents asked children perfunctory questions about stories being read or did not discuss what was being read. Not surprisingly, children whose parents asked few questions or only questions that required repetition of facts from stories achieved less well in school reading than children whose parents asked questions that required thinking and who related story happenings to real life events.[8]

Stories aren't the only material that provide children with exposure to written language. Records or tapes with follow-along books recently have been marketed to help young children learn to read. There is some support for the use of records or tapes in classroom reading activities,[9] and the use of such materials in the home may also be beneficial.

Such old-fashioned materials as chalkboards and paper and pencils can make a difference in children's learning to read. When children who learned to read before going to school were compared to similar children who couldn't read, the early readers were found to have greater access to chalkboards and paper and pencils and to do more writing.[10] Writing gives children a way to practice letter-sound relationships. Magnetic boards and letters can be used with young children who can't yet write with a pencil and may also promote the development of letter-sound knowledge.[11]

Many parents tutor preschool children in elements of reading, such as letter names.[12] Parents can do this through formal means such as workbooks or through opportunities that arise informally as part of everyday activities. Examples of informal instruction are pointing out letters on signs or writing messages on a magnetic board. In the home, informal instruction seems to work as well or better than formal, systematic approaches. Evidence of this comes from a study in which one group of parents was trained to teach their children to name letters and to identify sounds using a workbook. Children in another group, whose parents simply read to them, performed as well on beginning reading tasks as those whose parents had the training and the workbooks.[13]

For informal teaching to be successful, parents must be aware of what their children can learn and the experiences through which such learning will occur. They must know the importance of such matters as pointing out letters from the child's name on signs and containers. In a study comparing kindergarten children's knowledge, those who knew a lot about written language had parents who believed that it was their responsibility to seize opportunities to convey information about written language to their children.[14] Parents of children who had little knowledge did not share this belief.

Parents can affect children's learning from television programs that teach preschoolers about reading.[15] For example, parents can make sure that their children see the program regularly, and ask their children questions about the show to help them learn from it. Also important are parents' efforts to relate the program to other situations. For example, if children have learned the letter *m* and the sound associated with it on the show, drawing attention to other examples of words beginning with *m* is useful.

Computer software companies are developing beginning reading programs aimed at the lucrative home market. At this time, there is little solid information about the impact of computers on children's reading. However, a computer is an extraordinarily versatile piece of equipment, and it is only reasonable to suppose that it could play a useful role in learning to read.

The quality of the instruction incorporated in the computer software is sure to be paramount. Some software packages probably will provide children with good experiences; others probably will be nothing more than automated worksheets. Parents needs to shop carefully for software packages that provide worthwhile reading experiences. Furthermore, simply placing children in front of a computer terminal with a reading software program probably won't teach them to read. Based on accumulated experience with other media, it seems likely that even satisfactory reading software will have greater benefits if parents are actively involved in the ways suggested throughout this section.

Talking and Learning About Reading at School

Throughout the school years, parents continue to influence children's reading through monitoring of school performance, support for homework, and, most important, continued personal involvement with their children's growth as readers. Research shows that parents of successful readers have a more accurate view of their children's performance.[16] These parents know about the school's reading program. They visit their children's teachers, may observe in classrooms periodically, and are more likely to participate in home-school liaison programs.

In a study of children's achievement in the United States, Taiwan, and Japan, American parents were found to consider homework to be of less value than Japanese or Taiwanese parents.[17] Perhaps as a consequence, American children spend much less time on homework that the Japanese or Taiwanese children. Studies in the United States show a small to moderate relationship between the amount of time students spend doing homework and their reading achievement.[18]

Depending upon the kind of homework they assign, teachers have been found to foster or undermine parental support. Some teachers ask students to complete worksheets at home, rather than asking them to read books, magazines, or newspapers.[19] Many of these worksheets are of questionable value in the classroom; they are even more so in the home. Parents sometimes perceive assignments as busywork. This irritates them. Parents may be asked to help with tasks that they cannot do themselves. This antagonizes them.

Most children will learn *how* to read. Whether they *will* read depends in part upon encouragement from their parents. Several researchers recently studied the amount of reading that middle-grade students do at home.[20] Those who read a lot show larger gains on reading achievement tests. They tend to come from homes in which there are plenty of books, or opportunities to visit the library, and in which parents and brothers and sisters also read. Their parents suggest reading as a leisure time activity and make sure there is time for reading. For example, some limit TV watching or have an established bedtime hour after which reading is the only activity permitted other than going to sleep.

Parents of avid readers favor having teachers require students to read library books and believe that their children read more when teachers do so.[21] However, they do not endorse required reading of particular books. They favor the principle of allowing their children to choose their own books, although they acknowledge that they themselves disapprove of an occasional choice.

Parents often ask about the effect of television on reading. Within reason, television viewing does not appear to interfere with learning to read. Up to about ten hours a week, there is actually a slight positive relationship between the amount of time children spend watching TV and their school achievement, including reading achievement.[22] Beyond this point, the relationship turns negative and, as the number of hours of viewing per week climbs, achievement declines sharply.

There is evidence that confirms that TV programs especially designed to have educational value for young children do in fact promote reading.[23] Further, a dramatization of a novel or an animated production of a favorite cartoon strip can encourage children to read the book or the newspaper. Though research does not prove the point, common sense suggests that, depending on the age of the child, documentaries, newscasts, good drama, and wildlife, natural history, and science shows will also contribute to reading achievement. On the other hand, programs that are unlikely to have any redeeming educational value will come readily to any parent's mind. Prudent parents will want to influence the quality of the programs their children watch as well as maintain reasonable limits on the amount of viewing.

In conclusion, parents play roles of inestimable importance in laying the foundation for learning to read. A parent is a child's first guide through a vast and unfamiliar world. A parent is a child's first mentor on what what words mean and how to mean things with words. A parent is a child's first tutor in unraveling the fascinating puzzle of written language. A parent is a child's one enduring source of faith that somehow, sooner or later, he or she will become a good reader.

On a more sober note, parents' good intentions for their children are not enough. Parents must put their intentions into practice if their children are to have the foundation required for success in reading.

Reading Instruction in Kindergarten

Until the 1960's, kindergartens served primarily as a transition between home and school. Children learned to work with unfamiliar adults, get along with other children, and adjust to the routine of school. Traditional kindergartens also aimed to convey a variety of kinds of common knowledge and to develop general social, physical, and intellectual skills. Kindergartens still serve these functions, but now, in addition, there is an increasing expectation that systematic reading instruction will begin in kindergarten. Indeed, in many communities today kindergartens employ a simplified version of what used to be first-grade reading instruction.

The changing expectations for kindergarten stem from a new understanding of what children are capable of learning, which will be detailed in the next section, and also from recent trends in the society, notably the steady increase in the number of working women with young children. These children attend nursery schools and daycare centers that socialize them to school and develop some of the knowledge and skill formerly acquired in kindergarten.

When Should Systematic Reading Instruction Begin?

According to a view dating back to the 1930's, children are "ready" to learn to read only when they reach a certain level of maturity.[24] The typical child was thought to reach this level at the age of about six and one-half, though the time might be earlier or later for particular children depending upon their physical, social, and intellectual development. Until a child reached the requisite level of maturity, it was believed that systematic reading instruction would be unproductive or even harmful.

There is a kernel of good sense in the idea of readiness for instruction. Formal, organized instruction may be unproductive for children who still cry when their mothers leave them at school, who cannot sit still in their seats, or who cannot follow simple directions. However, the concept of readiness, as it was formulated in the decades following 1930, has proved to be too global.

In the past, under the belief that it would develop readiness for reading, kindergarten children were taught to hop and skip, cut with a scissors, name the colors, and tell the difference between circles and squares. These may be worthwhile activities for four- and five-year-olds, but skill in doing them has a negligible relationship with learning to read.[25] There are schools, nonetheless, that still use reading readiness checklists that assess kicking a ball, skipping, or hopping. Thus, reading instruction is delayed for some children because they have failed to master these physical skills or other skills with a doubtful relationship to reading.

What the child who is least ready for systematic reading instruction needs most is ample experience with oral and printed language, and early opportunities to begin to write. These are the topics of the next three sections.

When should systematic reading instruction begin, then? There is a wealth of evidence that children can benefit from early reading and language instruction in preschool and kindergarten.[26] Available data suggest that the best short-term results are obtained from programs that can be characterized as formal, structured, and intensive,[27] though whether these programs have greater long-term benefits is less clear. Good results are also obtained with informal, though not haphazard, programs.[28]

Based on the best evidence available at the present time, the Commission favors a balanced kindergarten program in reading and language that includes both formal and informal approaches. The important point is that instruction should be systematic but free from undue pressure. We advise caution in being so impatient for our children that we turn kindergartens, and even nursery schools and daycare centers, into academic bootcamps.

Developing Oral Language

Reading must be seen as part of a child's general language development and not as a discrete skill isolated from listening, speaking, and writing. Reading instruction builds especially on oral language. If this foundation is weak, progress in reading will be slow and uncertain. Children must have at least a basic vocabulary, a reasonable range of knowledge about the world around them, and the ability to talk about their knowledge. These abilities form the basis for comprehending text.

Listening comprehension proficiency in kindergarten and first grade is a moderately good predictor of the level of reading comprehension attained by the third grade.[29] Evidence about the later role of listening comprehension is even stronger. In a study involving a nationwide sample of thousands of students, listening comprehension in the fifth grade was the best predictor of performance on a range of aptitude and achievement tests in high school, better than any other measure of aptitude or achievement in the fifth grade.

Oral language experience in the classroom is especially important for children who have not grown up with oral language that resembles the language of schools and books. As the discussion of home experiences in the previous section revealed, some children have not been required to use language in reflective ways at home. When adult questions require children to reflect upon their experiences, mental processes that are needed for proficient reading are stimulated. Thus, kindergarten teachers need to capitalize on every opportunity to engage children in thoughtful discussion. Storybook reading is an especially good setting for such discussions. As they listen to stories and discuss them, children will learn to make inferences about plots and characters.

While oral language facility is necessary for success in reading, it is not sufficient. To learn to read, children's environment must also be rich in experiences with written language.

Learning About Written Language

Children enter a typical kindergarten class with very different levels of knowledge about printed language,[31] and instruction needs to be adapted for these differences. One or two children, and sometimes more, may already be able to read simple stories. A handful may be totally unfamiliar with such basic concepts as a word, a sentence, and a letter, and may not even know that to read you hold a book right side up and turn the pages from front to back. Most children entering kindergarten today, however, will know more about reading and writing than children did a decade or two ago.

A staple of kindergarten reading instruction is teaching children to name the letters of the alphabet. However, increasing numbers of children can already do this when they enter kindergarten. In a 1984 study, beginning kindergarten children from a variety of backgrounds could name an average of 14 letters.[32]

Children's proficiency in letter naming when they start school is an excellent predictor of their first- and second-grade reading achievement.[33] This fact seemingly supports the practice of having kindergartners learn letter names. Probably, however, knowledge of letter names is not important in itself so much as it is a reflection of broader knowledge about reading and language. This conclusion follows from the further fact that, when children who do not know the letter names on entering kindergarten are trained to name them, they show little later advantage in reading. In contrast, children taught the sounds letters make, as well as their names, show better reading achievement than children who receive only instruction in letter names.[34]

Research establishes that children learning to read require concepts about the broader purposes of printed language, as well as the specific skills required to recognize letters and words and match letters and sounds.[35] Learning about reading and writing ought to occur in situations where written language serves functions such as to entertain (as in books), to inform (as in instructions on packages), or to direct (as on traffic signs). In other words, children need to learn about the functions of written language and about what adults mean when they talk about "reading". Children must also learn about the relationship between oral and written language and the relationship between written language and meaning. For example, they need to know about the relationship between the letter combination STOP, the spoken word "stop", and the meaning of stop - to cease motion.

Even children from homes where adults have not provided them with extensive exposure to printed language have some knowledge about reading and writing that can form the basis for early instruction. For instance, they may be able to recognize words that appear on cereal boxes, t-shirts, billboards, or toys. However, they often jump to incorrect conclusions about words: They may think that the brand name on a toothpaste tube says "toothpaste" or "brush your teeth," indicating that they are paying more attention to the context than to the specific features of the word. Nonetheless, familiar words are especially useful for teaching children letter names and letter-sound relationships, because children can learn to recognize familiar words prior to knowing all the letters.[36]

Young children enjoy hearing the same story read over and over again, a fact that can be used as a fulcrum for beginning reading instruction. Books such as *This is the House That Jack Built* contain repeated phrases that make it possible for children to participate by reading the repetitive part with an adult. Through reading along, children achieve what one writer calls "wholebooksuccess" : They get the satisfaction of reading real books.[37] After a story has been read in this fashion, words from the story can be printed on charts and sentence strips so that the children can begin to recognize the words outside the helpful context of the familiar book.

In conclusion, kindergarten teachers must be mindful of the fact that there can be an extraordinarily wide variation in the knowledge that kindergarteners have about reading. Some children may not have even the most basic ideas. When a concept such as a word and concepts about the functions of printed language are taken for granted by teachers and the publishers of instructional materials, children can be left huffing and puffing over the sounds that letters make with only the faintest idea of what they are doing. Early instruction must provide these children with underlying concepts about the functions of reading and writing as well as with specific information about letters, sounds, and words. On the other hand, for those who come to kindergarten already reading simple stories, none of this basic teaching may be necessary. Thus, the essential principle of all good teaching - estimate where each student is and build on that base - is doubly important for kindergarten teachers.

Learning to Write

Writing is important in its own right. Beause of the interrelatedness of language, learning to write also aids in reading development. For many young children, the desire to communicate provides an incentive for using written language. In an investigation of children who read before they entered first grade, the parents described these children as "paper-and-pencil kids".[38] For some, in fact, learning to read was a byproduct of

Writing experience in the kindergarten should not overemphasize handwriting practice. In addition to beginning to learn to print, children need to learn that writing is composing a message using their own words to communicate with other people. Children can do quite a bit of writing before they are able to use a pencil well. For example, preformed plastic and metal letters used on felt or magnetic boards allow young children to write without the constraints of handwriting. In the early 1960's, a program in which preschoolers wrote on typewriters reported success in teaching children to read.[39] Currently, data are being gathered on the value for preschool children of simple word processing programs on microcomputers. As their motor coordination improves, children will acquire greater facility with pencils and pens. Until that point, however, they can have much-needed experience with writing using means that do not require them to form letters by hand.

When children do not feel too constrained by requirements for correct spelling and penmanship, writing activities provide a good opportunity for them to apply and extend their knowledge of letter-sound correspondences.[40] Many preschool children's spelling does not comply with standard spellings. In time, these children will use standard spellings but not before moving through the fairly well documented stage of "invented" spelling.[41] For example, children may initially write *t* for the word *tame*. Several months later, this may become *tm*, followed by *tam*, and finally *tame*.

Children's spelling becomes more conventional and they become facile at handwriting if they are given numerous opportunities for writing.[42] Reasons for writing can be found in any kindergarten classroom. For example, children can write captions for their pictures or address invitations. Their initial attempts may be only a single letter or word. Next they may move on to a phrase, such as "I love you," as they write a note to a favorite adult. These writing activities lay the foundation for letter writing and story writing. They also provide children with reasons to communicate, to apply their knowledge of written language, and to read their own writing and that of others.

Reading in the First Grade

Today many children begin to receive formal reading instruction in kindergarten. Once they reach the first grade, no matter what their kindergarten reading experience has been, it is virtually certain that they will receive formal, or structured, instruction. In most classrooms, the instruction will be driven by a basal reading program. For this reason, the importance of these programs cannot be underestimated and will be briefly discussed here.

Basal Reading Programs

Basal reading programs are complete packages of teaching materials. They provide an entire reading curriculum (summarized in what is called a "scope and sequence chart"), instructional strategies for teaching reading (through teachers' manuals), a graded anthology of selections for children to read (through student Readers), and practice exercises (through workbooks and skill sheets). In addition, there are numerous optional and supplementary materials (e.g., management and testing systems; visual aids such as word cards, sentence cards and picture cards; audio tapes; film strips; supplementary books). Basal reading programs are organized by grade level with most programs beginning at kindergarten and continuing through the eighth grade. An entire basal reading program would make a stack of books and papers four feet high.

The observation that basal programs "drive" reading instruction is not to be taken lightly. These programs strongly influence how reading is taught in American schools and what students read. This influence is demonstrated by studies that have examined how time and instructional materials are used in classrooms. The estimates are that basal reading programs account for from 75 percent to 90 percent of what goes on during reading periods in elementary school classrooms.[43]

How closely do teachers follow basal reading programs? A number of classroom studies indicate that, for the most part, teachers follow the instructional strategies prescribed in the teachers' manuals and that students use the Readers and workbook materials.[44] These studies do not suggest, however, that teachers use *all* of the available materials, or that they incorporate all of the recommended procedures in the teachers' manuals. Yet, the studies conclude that basal programs account for a large part of teachers' and students' time during the reading period.

Basal reading programs typically are developed by teams of authors who work with editors of educational publishing companies. These companies market their programs to schools throughout the United States. Although over a dozen well-known basal reading programs are on the market, about 70 percent of American schools buy one or more of the five best-selling programs. While membership in the "top five" varies from decade to decade, it can be asserted with a fair degree of certainty that a small number of basal reading programs have a strong influence on *how* American children are taught to read and *what* American children read.

Word Recognition and Beginning Reading

One of the cornerstones of skilled reading is fast, accurate word identification.[45] Well into the 20th century almost all children in this country were started on the road to skilled word identification by teaching them the letters of the alphabet, the sounds the letters make and, using this knowledge, how to sound out words. During the first third of this century, educators such as William S. Gray were responsible for turning American schools away from what they perceived to be the "heartless drudgery" of the traditional approach.[46] In its place, Gray and others advocated the look-and-say approach. The thinking was that children would make more rapid progress in reading if they identified whole words at a glance, as adults seem to do.

The look-say approach gradually came to dominate the teaching of beginning reading.[47] Nonetheless, educators continued to debate the best way to introduce children to reading. Rudolph Flesch brought the debate forcibly to the public's attention in the mid-l950's with his book, *Why Johnny Can't Read*, in which he mounted a scathing attack against the look-say method and advocated a return to phonics.[48] More influential in professional circles, though, was Jeanne Chall's now-classic book a decade later, *Learning to Read: The Great Debate*. Chall concluded on the basis of evidence available at the time that programs that included phonics as one component were superior to those that did not.[49]

The question, then, is how should children be taught to read words? The answer given by most reading educators today is that phonics instruction is one of the essential ingredients. All the major published reading programs include material for teaching phonics to beginning readers. Thus, the issue is no longer, as it was several decades ago, whether children should be taught phonics. The issues now are specific ones of just how it should be done.

Intuitively it makes sense that beginning readers receive phonics instruction because English is an alphabetic language in which there are consistent, though not entirely predictable, relationships between letters and sounds. When children learn these relationships well, most of the words in their spoken language become accessible to them when they see them in print. When this happens, children are said to have "broken the code."

What does research indicate about the effectiveness of phonics instruction? Classroom research shows that, on the average, children who are taught phonics get off to a better start in learning to read than children who are not taught phonics.[50] The advantage is most apparent on tests of word identification, though children in programs in which phonics gets a heavy stress also do better on tests of sentence and story comprehension, particularly in the early grades.

Data on the long-term effects of phonics instruction are scanty. In one of the few longitudinal studies, children who had received intensive phonics instruction in kindergarten or first grade performed better in the third grade than a comparison group of children on both a word identification test and a comprehension test. By the sixth grade, the group that years earlier had received intensive phonics instruction still did better than the comparison group on a word identification test but the advantage in comprehension had vanished.[51] The fact that an early phonics emphasis had less influence on comprehension as the years passed is probably attributable to the increasing importance of knowledge of the topic, vocabulary, and reasoning ability on advanced comprehension tests.

The picture that emerges from the research is that phonics facilitates word identification and that fast, accurate word identification is a necessary but not sufficient condition for comprehension. More will be said about the need for comprehension instruction in tandem with phonics instruction later. Here, the features that distinguish types of phonics instruction will be discussed.

Issues in the Teaching of Phonics

Phonics is instruction in the relationship between letters and speech sounds. The goal of phonics is not that children be able to state the "rules," governing letter-sound relationships. Rather, the purpose is to get across the alphabetic principle, the principle that there *are* systematic relationships between letters and sounds. Phonics ought to be conceived as a technique for getting children off to a fast start in mapping the relationships between letters and sounds.

It follows that phonics instruction should aim to teach only the most important and regular of letter-to-sound relationships, because this is the sort of instruction that will most directly lay bare the alphabetic principle. Once the basic relationships have been taught, the best way to get children to refine and extend their knowledge of letter-sound correspondences is through repeated opportunities to read. If this position is correct, then much phonics instruction is overly subtle and probably unproductive. For instance, many reading programs not only teach the speech sounds represented by the letters *b*, *l*, and *r*, but then they go on to directly teach the sounds associated with *bl* as in *black* and *br* as in *break*. This instruction is provided even to children who can read words containing *bl* and *br* flawlessly!

Thus, a number of reading programs, including ones not known for providing intensive phonics, try to teach too many letter-sound relationships and phonics instruction drags out over too many years. These programs seem to be making the dubious assumption that exposure to a vast set of phonics relationships will enable a child to produce perfect pronunciations of words. The more reasonable assumption is that phonics can help the child come up with approximate pronunciations - candidates that have to be checked to see whether they match words known from spoken language that fit in the context of the story being read.

There are essentially two approaches to phonics instruction - explicit phonics and implicit phonics.[52] The following discussion will address only the major differences between the two approaches. In practice, there are similarities in the instructional strategies used in explicit and implicit phonics programs as well as differences among explicit programs and among implicit programs.

In explicit phonics instruction, the sounds associated with letters are identified in isolation and then "blended" together to form words. For example, the teacher may write the letter *s* on the chalkboard and tell the children that the letter makes the sound /s/, or point to the *s* in the word *sat* and say that it begins with /s/.[53] During a typical explicit phonics lesson, the children will be asked to produce the sounds of letters that appear in isolation and in words.[54]

A critical step in explicit phonics instruction is blending the isolated sounds of letters to produce words. To help children blend the sounds in the word *sit*, for example, a teacher may begin by pointing to each letter and asking the children to say the separate sounds, /s/ /i/ /t/. Next the teacher may model blending by extending the sounds /ssiit/ and then collapsing the sounds together to yield *sit*.

Blending may seem simple to an adult who already knows how to read, but in fact it is a difficult step for many children. Until a child gets over this hurdle, learning the sounds of individual letters and groups of letters will have diminished value. Research indicates that teachers who spend more than average amounts of time on blending produce larger than average gains on first- and second-grade reading achievement tests.[55] Regrettably, an analysis of published reading programs concluded that several incorporate procedures for teaching blending that are unlikely to be effective with many children.[56]

In implicit phonics instruction, the sound associated with a letter is never supposed to be pronounced in isolation. Instead, in an implicit program the teacher might write a list of words on the board such as *sand*, *soft*, *slip* and ask the children what all the words have in common. When the letter name *s* has been elicited, the teacher would tell the children that, "The letter *s* stands for the sound you hear at the beginning of *sand*, *soft* and *slip*." To figure out the sound of a letter in a word to be read, children receiving implicit phonics instruction may be told, "This word begins with the letter *s*, so you know the word begins with the sound for *s*" or "think about other words you know that begin with the same letter."[57]

How is phonics taught in this country? No large-scale descriptions are available, but the fact that the most widely-used reading programs employ implicit phonics instruction suggests that this is the most prevalent way. However, classroom observation suggests that some teachers, at least, may not always follow the principles of implicit phonics. In a recent study, several first-grade teachers ostensibly using one or another implicit phonics program were observed.[58] Contrary to the recommendations in the teachers' manuals, they all produced the separate sounds of consonants and vowels apart from words. When asked why they did this, the teachers gave similar explanations. In the words of one of them, "That's how they hear it [the speech sound] best."

Analyses have revealed some specific problems with both implicit and explicit phonics. A problem with implicit phonics is that it places stress on an ability called "phonemic segmentation." This is the ability to identify separate speech sounds in spoken words. There is evidence that many young children cannot extract an individual sound from hearing it within a word.[59] This ability may depend upon already having learned something about the sounds associated with the separate letters. For instance, children who do not already have some idea of the sounds of the letters in *sit* may not be able to single out the short /i/ sound when they hear the word spoken. Hence, when the teacher tells the children that the letter *i* "has the sound you hear in the middle of *sit*," they may not be able to make the connection. Ironically, therefore, implicit phonics may actually presuppose what it is supposed to teach.

On the other hand, a problem with explicit phonics is that both teachers and children have a difficult time saying pure speech sounds in isolation. The *b* sound becomes /buh/, for instance. When figuring out a new word, the child who has been taught the sounds of letters in isolation may produce /buh-ah-tuh/ and never recognize that the word is *bat*. This problem may be more hypothetical than real, since there does not appear to be evidence that hearing or producing imprecise speech sounds is an actual obstacle to figuring out words, provided that the words are ones the children know from their spoken language and the words are encountered in a meaningful context.

All that phonics can be expected to do is help children get approximate pronunciations. These must be "tried out" to determine whether recognizable words have been produced that make sense in the context. When the process is working smoothly, it is not likely, for instance, that in the course of reading a story about pets a child would read "...dogs and cuh-ah-tuhs."[60]

Some authorities fear that a heavy emphasis on explicit phonics will interfere with the development of skill in meaningful, constructive reading. One basis for this fear comes from the analysis of children's errors during oral reading. Oral reading errors provide a window into what is going on inside children's heads as they read. Research suggests that first graders taught through an explicit phonics approach make more nonsense errors than other children.[61] These are errors that either are not words in English or are English words that make no sense in the story being read.

Other authorities contend that nonsense errors made by beginning readers are merely an indication that children are trying to use information about letters and sounds. Research does suggest that making these errors is a stage that will pass once more fluency is developed and the children have learned to make use of all of the information available about a word's pronunciation and meaning.[62] A recent study found that by the time they had reached the third grade, children who had begun in the first grade with intensive, explicit phonics were making no more nonsense errors than other children.[63]

Phonics instruction in general has been criticized for leading children away from meaning.[64] Probably, this is not an inherent flaw of either explicit or implicit phonics. It may, however, be a flaw in the design of particular programs. Quite likely the problem is simply a by-product of the false dichotomy between phonics and meaning that has dominated the field of reading for so many years. In an excess of zeal to get phonics across, some programs introduce the sounds of many letters before providing opportunities to use what has been learned in reading words in sentences and stories.

Which works better, then, explicit or implicit phonics? When the criterion is children's year-to-year gains on standardized reading achievement tests, the available research does not permit a decisive answer, although the trend of the data favors explicit phonics.[65]

In the judgment of the Commission, isolating the sounds associated with most letters and teaching children to blend the sounds of letters together to try to identify words are useful instructional strategies. These are the strategies of explicit phonics. However, research provides insufficient justification for strict adherence to either overall philosophy. Probably, the best strategy would draw from both approaches. For example, the sounds of some letters such as *r*, which are especially difficult to produce correctly in isolation, might be introduced best using the implicit approach.

Further, letter-sound relationships should always be lavishly illustrated with words. These provide concrete exemplars for what can otherwise be confusing, abstract rules. When children are encouraged to think of other words they know with similar spellings when they encounter a word they cannot readily identify, they are probably helped to develop the adult strategy of decoding unknown words by analogy with ones that are known.[66] This is a strong feature of the implicit approach, which is intrinsically word based. Of course, explicit phonics programs do illustrate letter-sound relationships with words, but the instruction in some of these programs would be strengthened if more attention were paid to systematically providing words to serve as concrete exemplars.

In summary, the purpose of phonics is to teach children the alphabetic principle. The goal is for this to become an *operating principle* so that young readers consistently use information about the relationship between letters and sounds and letters and meanings to assist in the identification of known words and to independently figure out unfamiliar words. Research evidence tends to favor explicit phonics. However, the "ideal" phonics program would probably incorporate features from implicit phonics as well. The Commission believes that the approaches to phonics recommended in programs available today fall considerably short of the ideal, and we call for renewed efforts to improve the quality of instructional design, materials, and teaching strategies.

The right maxims for phonics are: Do it early. Keep it simple. Except in cases of diagnosed individual need, phonics instruction should have been completed by the end of the second grade.

Phonics and Reading Selections for the Beginning Reader

No matter how children are introduced to words, very early in the program they should have experience with reading these words in meaningful texts. The discussion in this section is about the relationship between what children are learning about phonics and the selections they read in their primers.[67] Selections in primers are typically very short and written with a limited set of words.[68] Selections for older students who have acquired basic reading skill are considered in the chapter on Extending Literacy. Obviously, these selections are longer and more complex than those in primers.

Writing the first selections a child will read is a difficult balancing act. Ideally, the selections will be interesting (so that students will *want* to read them), comprehensible (so that students are able to *understand* them), and instructive (so that students will *learn* from them). But how can selections be made interesting when most of the children don't know how to read very many words? How can stories be comprehensible when they must be written with a severely limited set of words? How can selections be instructive so as to most effectively provide students with the opportunity to practice what they are being taught, and at the same time be interesting and comprehensible?

The reality is, that because the number of words that beginners can identify is still very limited, the few short sentences in the earliest school reading selections cannot, in themselves, tell complete stories. Meaning must be constructed not only from the few meager sentences, but also from picture clues and information provided by the teacher or elicited from the children during discussion. This is one of the reasons why early reading lessons are so full of pictures and intervening discussion.

As will be detailed in the next section on Comprehension and the Beginning Reader, the manner in which programs and individual teachers handle early reading lessons is not always optimum. In the meantime, the point is that from the very beginning children should be given *all* of the elements necessary for constructing meaning. This is important because reading at this early level is a new enterprise, and children must be made aware that reading is always directed toward meaning.

Each encounter with a reading selection should serve the dual goals of advancing children's skill at word identification *and* helping them to understand that reading is a process not simply of word recognition, but one of bringing ideas to mind. There is a reciprocal relationship between word identification and comprehension. The selections written for children to read in school should exploit this relationship. As skill at word identification grows, a larger number of printed words becomes accessible to the young reader. As the number of accessible words increases, more coherent and interesting texts come within reach of the child. More coherent texts contain more clues to pronunciation and meaning which, in turn, leads to more fluent word identification.

There are methods for introducing children to reading that begin with more natural selections that do comprise complete stories. These methods, which will be lumped under the label "whole language" approaches, were briefly sketched in the section on Reading Instruction in Kindergarten. It is noteworthy that these approaches are used to teach children to read in New Zealand, the most literate country in the world, a country that experiences very low rates of reading failure.[69] However, studies of whole language approaches in the United States have produced results that are best characterized as inconsistent. In the hands of very skillful teachers, the results can be excellent. But the average result is indifferent when compared to approaches typical in American classrooms, at least as gauged by performance on first- and second-grade standardized reading achievement tests.[70]

In the typical American basal reading program, selections in primers are written using sets of words chosen according to one of two criteria:
1) useful words that appear with great frequency in the language and are thus likely to be in young children's listening and speaking vocabularies; or
2) words that exemplify the letter-sound relationships being introduced in phonics instruction.

To illustrate the difference depending upon which of these two criteria are used, the following are the first several sentences from a little story that would be read by typical first graders in approximately November.

"We have come, Grandma," said Ana.
"We have come to work with you."
"Come in," Grandma said.
"Look in the book," said Grandma.
"Mix this and this."[71]

In this 26 word excerpt, there are 17 different words. Of these 17, only 8 could be decoded entirely on the basis of letter-sound relationships that have been introduced in the program's phonics lessons.

Now consider the following few sentences of a story from a different program that would also be read in about November of first grade.

Ray loads the boat.
He says, "I'll row."
Neal says, "We'll both row."
They leave, and Eve rides home alone.[72]

Of the 18 different words in this 20 word excerpt, 17 could be decoded entirely on the basis of letter-sound relationships that students should know from the program's phonics lessons. Notice, though, that this selection contains a few words, such as *loads* and *row*, that are a little less likely to be known by some first graders than the words in the first selection, and perhaps somewhat less useful in reading later selections.

Both these programs teach phonics. At the point where the children would read the selections excerpted above, both have introduced about 30 letter-sound relationships. But only the second program gives the child a good opportunity to use phonics in actual reading.

Phonics instruction is just the first step toward the ultimate goal of fast, accurate word identification and fluent reading. What must occur is that students become so familiar with letter-sound relationships that words are identified automatically, that is, with little conscious attention. This will happen more readily when students encounter in the materials they are reading words that embody the letter-sound relationships that are being taught.

An analysis of eight basal reading series has indicated, however, that there is little connection between the phonics lessons and the reading selections in the primers of the best-selling programs.[73] Phonics is poorly integrated because these programs introduce the most important and useful familiar words first. The problem is that there is an irregular relationship between the spelling and the pronunciation of many of the most useful, familiar words. Consider, for instance, *said* and *come*. If they were regular, *said* would rhyme with *raid* and *come* would rhyme with *home*.

There has been a traditional sequence for introducing letter-sound relationships in phonics lessons. Briefly, children are taught consonant sounds, then short vowel sounds, then long vowel sounds in regular words such as *bake* and *kite*. When programs using this sequence seek perfect regularity between spelling and pronunciation, using only letter-sound relationships that have already been taught, the result can be selections for beginning readers comprised of deadly sentences such as, "Dan had a tan fan." Children do not require this much regularity to master the alphabetic principle. One key to writing more meaningful selections for young readers may be more flexibility in the choice of the order for teaching letter-sound relationships. Relationships could be introduced in an order that makes accessible the largest possible vocabulary of useful words.

The important point is that a high proportion of the words in the earliest selections children read should conform to the phonics they have already been taught. Otherwise they will not have enough opportunity to practice, extend, and refine their knowledge of letter-sound relationships. However, a rigid criterion is a poor idea. Requiring that, say, 90 percent of the words used in a primer must conform to letter-sound relationships already introduced would destroy the flexibility needed to write interesting, meaningful stories. What the field of reading does not need is another index that gets applied rigidly. What the field does need is an understanding of the concepts at work.

Is it possible to write interesting, comprehensible, and natural-sounding selections for young readers while at the same time constraining the vocabulary on the basis of letter-sound relationships? The answer is that it ought to be possible to come much closer to the ideal than the most widely-used programs do at the present time. The following guidelines may help: First, letter-sound relationships can be introduced in a sequence that would allow early use of as rich as possible a set of words while still exemplifying the alphabetic principle. Second, selections can include some useful irregular words without confusing children. Third, selections can include some regular words that embody letter-sound relationships that haven't been introduced yet, but are needed to make interesting, meaningful stories. Again, while it is essential that authors of primers have flexibility, a fairly high proportion of the words must conform to already-taught letter-sound relationships if phonics instruction is to have substantial value.

Children have an easier time understanding stories written in familiar language. Familiarity of language involves not only the familarity of words but also the familiarity of sentence structures. Children, and indeed, most readers, have a difficult time understanding sentences written in styles that they don't frequently hear or use. Even the speech of first-grade children is much more sophisticated than that in basal readers. First-grade children do not say "The cat is there. See the cat. It is black." More likely, a first-grade child would say, "There's a black cat over there." Research has suggested that when children are given a text that conforms to their speech patterns, they comprehend it better.[74]

Writing the first selections a child will read is "a difficult balancing act," to be sure. But there are examples of selections for young readers that meet the technical requirements for a controlled vocabulary and at the same time tell a story and use language in artful ways. One notable example is *Green Eggs and Ham* written by the famous children's author, Dr. Seuss.[75] Large publishing companies invest upward of $15,000,000 to bring out new basal reading programs. Within budgets of this size, surely it is possible to hire gifted writers who can create stories far superior to the standard fare. The Commission believes that the American people ought to expect and should demand better reading primers for their children.

Comprehension and Beginning Reading

The heart of reading instruction in American classrooms is the small group reading lesson in which the teacher works with some children while the rest complete assignments at their seats. This is the usual arrangement in first, second, and third grade, and sometimes beyond. The small group lesson provides the opportunity for instruction and practice on all aspects of reading. For the beginning reader, it is a major opportunity to acquire insights into comprehension and to link word identification and comprehension.

The typical teacher's major resource on how to conduct this lesson is the manual that is part of the commercial reading program the school district has purchased. The teacher's manual contains detailed suggestions for conducting every lesson, often in as much detail as the script for a play. Presented in bold type within the manual is the exact wording of statements that the teacher can make to students. For example, to begin a lesson the manual may suggest that the teacher say, "Today we're going to read a story about polar bears. Have any of you ever seen a polar bear in a zoo?" Further directions will then be given in plain type such as "Give children several moments to discuss polar bears. After that, read the introductory statement about the story."

Some school districts afford teachers the option of using any of a variety of materials and approaches to teach reading. More typical, though, is the district that requires the use of the basal reading program that it has purchased. Even these districts usually give teachers flexibility in whether or not they follow the teacher's manual word for word. Classroom observation and interviews with teachers suggest that, whether by choice or not, most teachers do rely on manuals.[76] The teachers' manuals that accompany the best-selling commercial reading programs suggest lessons with three basic parts: preparation, reading, and discussion.

Preparation. In the preparation phase, the teacher is supposed to introduce the new words that will be encountered in the day's basal reader selection and make sure the children possess the background knowledge required to understand the story. The preparation phase is one place where an aspect of comprehension may be explicitly taught or, in the primary grades, where phonics may be taught. The preparation phase may conclude with the teacher's stating a purpose or asking a question to guide reading.

Systematic classroom observation reveals that preparation for reading is the phase of the small group lesson that is most often slighted, or even skipped altogether.[77] Thus, as a rule, little focused attention is given to developing the background knowledge that will be required to understand the day's story. This is a topic on which teachers' manuals do include specific recommendations. When asked why they neither follow the recommendations in the manuals nor substitute instruction of their own design, teachers say they don't have the time.[78]

Several studies indicate that using instructional time to build background knowledge pays dividends in reading comprehension.[79] It must be warned, though, that there has been a rush of enthusiasm for this practice in professional circles. Teachers are receiving all manner of suggestions waving the banner of background knowledge, some of which may, indeed, be a waste of time. Teachers are being urged to engage children in activities and discussion that may range over too wide an array of topics.

Useful approaches to building background knowledge prior to a reading lesson focus on the concepts that will be central to understanding the upcoming story, concepts that children either do not possess or may not think of without prompting. The advice in teachers' manuals is often unfocused, as in the polar bear example at the beginning of this section.[80] Unstructured preparation may wander away from the concepts of central importance.

The effect of preparation for reading on children's recall of a story was examined in a study which compared unfocused preparation with preparation that highlighted the central ideas of the story.[81] The plot of the story involved a woman who wishes on a star, a raccoon who comes nightly to her doorstep to look for food, and some bandits. The raccoon's masked appearance frightens the bandits into dropping a bag of money, which the raccoon picks up and eventually drops at the woman's doorstep on his nightly search for food. Finding the money, the woman attributes it to her wish on a star.

The suggested steps for preparation in the teacher's manual led to a discussion of raccoons as clever, playful animals. Yet to understand the story, children must grasp the ideas of coincidence and habit, since the raccoon's habitual behavior allows the coincidences to occur. Children who received preparation that concentrated on these ideas did much better in remembering the central ideas of the story than children prepared according to the suggestions in the teacher's manual.[82]

Much of the research showing that it is essential for children to learn to construct meaning based on background knowledge, as well as information in the text, has been conducted recently. This probably explains the low priority this aspect of reading receives in most classrooms today. Teachers, principals, and reading supervisors are just now getting the opportunity to learn about the research and adjust their priorities.

Reading. The second phase of a typical lesson is reading the day's selection. A basic issue is the proper role for silent and oral reading considering the children's age and ability. Frequent opportunities to read aloud make sense for the beginning reader. In the first place, oral reading makes a tie with the experience children have had of reading in their homes, nursery schools, and kindergartens as adults have read to them. Further, oral reading makes observable aspects of an otherwise unobservable process, providing teachers with a means for checking progress, diagnosing problems, and focusing instruction. Not to be underestimated is the function oral reading serves in providing young children a way to share their emerging ability with their parents and others.

Nor should oral reading be discarded altogether once children are fairly skilled readers. Opportunities to read aloud and listen to others read aloud are features of the literate environment, whatever the reader's level. There is no substitute for a teacher who reads children good stories. It whets the appetite of children for reading, and provides a model of skillful oral reading. It is a practice that should continue throughout the grades. Choral reading of poetry and reading plays also contribute to oral reading skill and help keep oral traditions alive. However, as the reader moves beyond the initial stages of literacy, more time will be devoted to silent reading, since that is the form that skilled reading most often takes.

Current observations of American classrooms indicate that teachers do differentiate the amount of oral and silent reading according to the reader's level. A study of 600 reading-group sessions found that low-ability readers at the first-grade level read orally during about 90% of the time allocated to the lesson, while high-ability first-graders read aloud about 40% of the time. By Grade 5, low-ability groups spent somewhat over 50% of lesson time reading aloud whereas high-ability groups averaged less than 20%.[83]

The way oral reading is handled in the typical classroom may not be optimum. Authorities recommend that children read a selection silently before they read it aloud. Research suggests that this practice improves oral reading fluency.[84] However, classroom observations reveal that silent reading before oral reading is frequently omitted,[85] which is like being asked to perform a play without having read the script beforehand. Consequently, unless the children are already rather good readers, the reading is unnecessarily slow and halting, and the experience may be needlessly stressful for some children.

The value of oral reading depends in part on the way the teacher deals with mistakes. If a child makes a large number of mistakes, this usually means that the selection is too difficult and that the child ought to be moved to an easier one. Otherwise, a sensible rule of thumb is to ignore most mistakes unless the mistake disrupts the meaning of the text. Even professional oral readers, such as radio and TV announcers, frequently deviate from the text in small ways. When a teacher is compulsive about always conecting small mistakes, the child's train of thought will be interrupted.

Some teachers pay too much attention to correcting what they judge to be imperfections in the pronunciation of children, and thereby may interfere with comprehension. Overemphasis on standard pronunciation can be a serious problem when the child is not a native speaker of English or the child speaks a different dialect of English than the teacher. For instance, in one study a lesson was observed in which the children were reading a selection that contained the word *garbage*.[86] The white teacher interrupted a black child several times trying to get him to say /garrrbage/ instead of /gahbage/.

When a child makes an oral reading mistake that changes the meaning, the best technique is to first wait and see whether the child can come up with the right word without help. If not, the teacher should direct the child's attention to clues about the word's pronunciation or meaning, depending upon the nature of the error. When the word has been correctly identified, the child should be encouraged to reread the sentence. This helps to assure that the child assimilates the correction and can recover the meaning of the whole sentence. Research suggests that teachers who deal with oral reading errors in the manner that has just been outlined produce larger-than-average gains in reading achievement.[87] Teachers who routinely supply the correct word, or permit other children in the group to call out the correct word, get children in the habit of waiting passively for help.

When children read orally, it is most often in a format called "round robin reading." Each child in a reading group takes a turn reading aloud several lines or a page of the story. An issue in round robin reading is equal distribution of turns for reading among the children. When a teacher always calls on volunteers, it has been shown that assertive children get more than their share of turns. This is undesirable because there is evidence that the child reading aloud and directly receiving instruction from the teacher is getting more from the lesson than the children who are following along.[88] A simple method for equalizing opportunity is to move around the group giving each child a turn in order. This method has produced good results in several studies.[89]

A problem with round robin reading is that the quality of practice is often poor. This problem is acute in the low-ability group where children hear only other poor readers stumbling over words. This problem can be lessened by having the children read the selection silently beforehand.

Even under the best of circumstances, round robin reading is not ideal for developing fluency and comprehension. An alternative technique that has proved successful in small-scale tryouts is to have children repeatedly read the same selections until an acceptable standard of fluency is attained. This can be done in several ways: Small groups can read along with an adult or they can follow a tape-recorded version; they can practice silently and then read aloud to the teacher; pairs of children can take turns reading aloud to one another. Poor readers who engage in repeated reading show marked improvement in speed, accuracy, and expression during oral reading of new selections and, more important, improvement in comprehension during silent reading.[90] Repeated reading deserves consideration as an alternative to the conventional practice of having children read aloud new material every day. No one would expect a novice pianist to sight read a new selection every day, but that is exactly what is expected of the beginning reader.

In addition to oral reading, children of every age and ability ought to be doing more extended silent reading. The amount of time children spend reading silently in school is associated with year-to-year gains in reading achievement.[91] Even young readers benefit from opportunities for silent reading. For instance, increased silent reading for beginners is one of the features of a very successful program for low-income Hawaiian children who are otherwise at risk for educational failure.[92]

To summarize, classroom time spent on either oral or silent reading is time well spent. Even beginning readers should do more silent reading. They should usually read silently before they are asked to read aloud. Getting the most from the customary practice of round robin oral reading requires the teacher to distribute turns equally among the children, skillfully handle mistakes, and focus attention on meaning. But alternatives to round robin reading of new material, such as repeated reading, appear to hold more promise for promoting reading fluency and comprehension.

Discussion. Following the reading of a selection, the final phase of a typical reading lesson is discussion. In the primary grades, there are brief discussions after each section of the selection and a longer discussion when the whole story has been completed. In the intermediate grades, the interspersed discussion periods are not usually present. The discussion phase is a place where the teacher may provide direct instruction in some aspect of reading comprehension, using the day's selection for illustration. In the primary grades, this is the point where phonics instruction is usually provided. The last thing the teacher does is explain the seatwork assignment and make sure the children understand what they are supposed to do before they return to their seats.

A clear finding from research of the past decade is that young readers, and poor readers of every age, do not consistently see relationships between what they are reading and what they already know.[93] Research also establishes that questions asked during the discussion phase of a lesson are a useful tool for helping children see relationships. Questions that lead children to integrate information about the central points of a selection with their prior knowledge significantly enhance reading comprehension.[94]

Classroom research indicates that teachers make heavy use of manuals when leading discussions.[95] Manuals include a large number of questions for each story, and most of them are asked during a typical lesson. While research verifies that asking well-crafted questions can be an important means of promoting comprehension, analysis of the questions in manuals reveals many that are poorly crafted - too general, leading the children's thinking afield; or trivial, focusing their thinking on unimportant details.[96]

Questions are a means of conveying to students the points they should be attempting to understand as they read future selections as well as a means for checking to see that they have understood the selection they have just read. Thus, questions following a story should probe the major elements of the plot. If the story has a moral, discussion should bring out this deeper meaning.

No piece of advice about questioning has been repeated more often than the proscription, "Don't ask too many detail questions." For instance, if a story were to say that Sally was wearing a red dress, teachers may be warned against asking about the color of her dress. This advice is incomplete, however. The question is perfectly sensible if the color of Sally's dress figures in the plot. A more complete statement about questions is that, as a general rule, they should be formulated to motivate children's higher-level thinking. When questions about details are asked, usually they should be links in a chain of questions that lead to an inference about a hard-to-understand part of the passage or an understanding of the selection as a whole.

While questions during the preparation and discussion phases of a reading lesson are important, these do not substitute for active, direct instruction. In direct instruction, the teacher explains, models, demonstrates, and illustrates reading skills and strategies that students ought to be using.[97] There is evidence that direct instruction produces gains in reading achievement beyond those that are obtained with only less direct means such as questions.[98]

The emphasis during reading lessons should be on understanding and appreciating the content of the story. Lessons in which the children do little else but take turns reading the story, and the teacher does little else but correct reading errors, are ineffective. Teachers should periodically ask students questions that lead them to understand the critical points of the story. As needed, the teacher should explain points that students have confused or demonstrate skills that students should be using.

In conclusion:

o Parents play roles of inestimable importance in laying the foundation for learning to read. Parents should informally teach preschool children about reading and writing by reading aloud to them, discussing stories and events, encouraging them to learn letters and words and teaching them about the world around them. These practices help prepare children for success in reading.

o Parents have an obligation to support their children's continued growth as readers. In addition to laying a foundation, parents need to facilitate the growth of their children's reading by taking them to libraries, encouraging reading as a free time activity, and supporting homework.

o Kindergarten programs should emphasize oral language and writing as well as the beginning steps in reading. Reading builds on oral language facility, concepts about the functions of printed language and a desire to communicate through writing, as well as specific knowledge about letters and words.

o Phonics instruction improves children's ability to identify words. Useful phonics strategies include teaching children the sounds of letters in isolation and in words, and teaching them to blend the sounds of letters together to produce approximate pronunciations of words. Another strategy that may be useful is encouraging children to identify words by thinking of other words with similar spellings. Phonics instruction should go hand in hand with opportunities to identify words in meaningful sentences and stories. Phonics should be taught early and kept simple.

o Reading primers should be interesting, comprehensible and instructive. To be most instructive, primers must contain many words that can be identified using phonics that has already been taught. There is a natural relationship between word identification and comprehension. Primer selections should be written to exploit this relationship. After the earliest selections, primers should tell complete, interesting stories.

- Both oral and silent reading are important for the beginner. Children should read selections silently before they are asked to read them orally. Getting the most from oral reading requires the teacher to distribute turns for reading equally, skillfully handle mistakes, and keep the emphasis on meaning.
- Reading lessons should stress understanding and appreciating the content of the selection. Discussions before reading and discussions and questioning after reading should motivate children's higher level thinking, with an emphasis on making connections with their prior knowledge of the topic. In addition to asking questions, teachers should directly instruct children in skills and strategies that help them become better readers.

Extending Literacy

Children still have much to learn about reading even when they can decode words with a fair degree of facility and can understand simple, well-written stories. Increasingly, though, as proficiency develops reading should be thought of not so much as a separate subject in school but as integral to learning literature, social studies, and science.

Even for beginners, reading should not be thought of simply as a "skill subject." It is difficult to imagine, for instance, that kindergarteners could be called literate for their age if they did not know *Goldilocks and the Three Bears* or *Peter Rabbit*. For each age, there are fables, fairy tales, folk tales, classic and modern works of fiction and nonfiction that embody the core of our cultural heritage. A person of that age cannot be considered literate until he or she has read, understood, and appreciated these works.[1]

This chapter deals with three essential factors that influence whether the young readers will be able to extend their skill to meet the challenges of subject matter learning. The first is the quality of school text books. The second is the nature of the instruction that teachers provide. The third is opportunities for meaningful practice.

School Textbooks

Authors and editors face many pressures as they prepare the selections that comprise basal readers and write the textbooks intended for older children who have acquired the rudiments of reading skill. The criteria for vocabulary control that must figure in the design of primers are supplemented and then replaced by other criteria as the selections get longer. The selections must reflect classic literary traditions. At the same time some selections must be "timely" so that modern students will relate to them. Selections on history, geography, and science must be accurate and informative. To these criteria are added the demands of special interest group seeking to influence the topics that will be presented in schoolbooks and the way in which these topics are handled.

The remainder of this section deals with two of the most pressing and important issues in writing school textbooks. The first is controlling the difficulty and appropriateness of textbooks. The second is designing the bridges that help young readers make the transition from simple stories to more complicated reading material.

Controlling the Difficulty of Schoolbooks

A vexing problem for textbook writers is matching the difficulty level of the material to the ability level of the child for whom the material is intended. It is obvious that *Pride and Prejudice* is unsuitable for a seven-year-old. But it is much less obvious just what material would have a suitable level of difficulty for a child of this age. Educators have long wanted a simple, objective method for determining an appropriate difficulty level for schoolbooks. In response, several decades of research and development have been invested in easy-to-use methods. The result is what are called "readability formulas."

The formulas now in use encompass two features of written language: The length of the sentences, expressed as an average in a sample of a book's text; and, the complexity of the words used, also expressed as an average (in number of unfamiliar words, or number of syllables) in a sample of the text.

An example of how one common readability formula is applied to a passage is as follows.[2] Three sample passages of 100 words each are randomly selected from a reading selection. For each passage, the number of words per sentence and the number of syllables per word are computed. These figures are averaged over the three samples to give an estimate of the sentence length and an estimate of the word length for the entire selection. All that remains is to refer to a graph, plotting word length on one side of the graph and sentence length on the other. The point of intersection on the graph gives the approximate grade level for which material is appropriate, without actually having to insert the numbers into a formula and perform any calculations. For example, a story with an average sentence length of 14 words and an average word length of 1.24 syllables is estimated to be appropriate for a typical child in the fifth grade. If the sentences averaged only 12 words and the word length was 1.24, the material would be estimated as appropriate for an average child in the fourth grade.

As this illustration indicates, readability formulas are easy to apply. The formulas also give a fairly good prediction of how difficult typical students will find a book.[3] For these reasons schools have come to depend on readability formulas to appraise the difficulty and appropriateness of schoolbooks. Most schools will not purchase material that does not satisfy one of the formulas.

To sell their textbooks, publishing companies face a temptation to "write to formula." However, this is a purpose for which the formulas were never intended. As one authority on readability has admonished, "merely shortening words and sentences to improve readability is like holding a lighted match under a thermometer when you want to make your house warmer."[4]

Important features of text, such as the logical organization of ideas and the clarity of sentence structures, don't show up in the measurements taken to calculate readability. It is quite possible to write a disorganized text, full of incomprehensible sentences, and still achieve a desired readability score.[5] Indeed, dividing long sentences into shorter sentences and substituting familiar words for less familiar words can make a text more difficult to understand. This seeming contradiction is easy to explain. When a long sentence is divided into shorter sentences, a reader often has to make more inferences. This is because words that connect ideas such as *so*, *because*, and *since* in long sentences are omitted when the sentence is divided. For example, compare the following passages in which an original text has been rewritten to conform to a readability formula:

> (original)
> Little Hippo was the pet of the herd. Every morning the big hippos waited for him to wake up so they could take care of him.
>
> (rewritten)
> Every morning was the same for Little Hippo. All the big hippos would wait for him to get up. They wanted to take care of him.[6]

To reduce sentence length, a compound sentence has been broken into two simple sentences by deleting the conjunction *so*. But the connection between the two pieces of information is now left vague. Consequently, the reader has to infer that the big hippos were eager for Little Hippo to wake up *because* they enjoyed taking care of him.

Similarly, substituting familiar words for less familiar words to conform to a readability formula can also make a text more difficult to understand. When a common word is substituted for a less common word, the common word may be less informative. A reader may have fewer clues to the meaning originally intended by the author. For example:

> (original)
>
> One morning Little Hippo felt cross. 'I don't want lily pads and corn', he grumbled. 'I wish the hippos wouldn't watch everything I do.'
>
> (rewritten)
>
> One morning Little Hippo said to himself, 'I don't want anyone to bring me food.' 'I don't want anyone to take care of me.'7

In the rewritten version, *said to himself* has been substituted for *felt cross and grumbled, food* for *lily pads and corn*, and *take care of me* for *watch everything I do.* Although it contains fewer uncommon words, the rewritten passage is vague and no longer communicates the idea in the original that Little Hippo wants privacy and something different for breakfast. For no apparent reason, little Hippo now rejects food and care in general.

These contrasting passages illustrate that reducing sentence length and changing word familiarity does not necessarily produce more comprehensible text. They also illustrate that the verve and style of an original can be lost in translation.

In summary, readability formulas are useful as a first check on the difficulty and appropriateness of books. However, no formula gauges the clarity, coherence, organization, interest, literary quality, or subject matter adequacy of books. Inevitably, overreliance on readability formulas by the schools and their misuse by the publishing industry has contributed to bad writing in schoolbooks. The Commission urges those who buy books and those who write and edit them to supplement analyses using readability formulas with analyses of the deeper factors that are essential for quality.

The Transition to Literature, Social Studies, and Science

Formal reading instruction begins with very simple stories. Eventually the young reader must develop the skill to understand literature and subject matter textbooks. This transition can be made easier through careful selection of material, coherent writing, and sound editing.

There are good reasons why reading instruction begins with simple stories. One is the need to control vocabulary. A deeper and more subtle reason is that children readily acquire an understanding of the whole structure of stories and, therefore, stories are especially comprehensible to children.

As this paragraph is written, the raccoon's motivation for hiding may not be clear, and the animal's action may seem arbitrary. If the last sentence is changed to, "Beause wild animals are afraid of people, the raccoon hid in back of a tree." the paragraph becomes easier for a child to understand.[13]

Obviously, as students advance they will have to learn to cope with texts in which both the structure and content are unfamiliar. Somewhat different demands are imposed by the two major types of texts the maturing reader faces - literature and subject matter textbooks.

With respect to literature, students must be able to understand increasingly complicated plots and characterization. They need to be able to cope with literature in which devices such as flashbacks and flash-forwards are frequent and subtle in realization. They need to be able to appreciate the moral or author's point as well as how the plot is resolved. Particularly in the early grades, made-for-school stories are not as complex as the literature intended for children in the same grades on the shelves of libraries and bookstores.[14] This fact has caused some authorities to wonder whether school reading programs adequately prepare children for genuine literature.

Subject matter textbooks pose the biggest challenge for young readers being weaned from a diet of simple stories.[15] Most selections in basal readers for the primary grades are stories. It is only common sense that children would be helped to make the transition to textbooks if early basal readers contained more high quality non-fiction. Though there is little hard evidence on the point, anyone experienced in working with young readers knows that they can understand and do appreciate selections on such topics as animals, clouds, and how to make a kite, provided the material is presented in a coherent fashion.

Compared to simple stories, the intrinsic structure in a field such as geography does less to guide an author's organization of a text and, later, the student's reading of the text. In other words, the author of a textbook chapter has many more options about which topics to include and the order in which they are addressed than the author of a simple story. For instance, while there is an underlying structure to geography, it does not dictate that the political boundaries, topography, climate, culture, economy, history, and government of a country must all be discussed. It does not dictate the order in which topics are addressed. It does not dictate which of the possible connections between climate and economy or culture and government must be drawn.

Story "structure" refers to the way in which ideas in a story are connected. Well-formed children's stories place characters in settings. The characters have goals that are expressly stated or easily inferable. The characters make plans and undertake actions to achieve those goals. The actions unfold in an orderly sequence. There are outcomes in a well-formed story. Sometimes the characters fail and sometimes they succeed in reaching their goals, but in any case they have emotional reactions to these outcomes.

Research has shown that most children's sense of the structure of stories develops rapidly.[8] By the time children who have *heard* a lot of stories enter elementary school, they have a surprisingly sophisticated understanding of story structure. They know about characters, plot, action, and resolution. How does a knowledge of story structure make it easier for children to understand the stories in their readers? Research with young children reveals that the more closely a story fits an expected structure, the easier it is for a reader to grasp and remember the important ideas.[9] Stories that conform to a "good" story structure make it easier for readers to connect the parts of the story.

Regrettably, many stories for the early grades do not have a predictable structure.[10] This is especially true of the stories in primers and first-grade basal readers. In fact many of these selections do not actually tell a story, as was illustrated in the chapter on Emerging Literacy. This makes the selections less comprehensible, less interesting, and probably slows progress in learning to read.

Later selections generally do tell a story, but they often fail to have a structure that is as clear and comprehensible as possible. A pervasive fault is that stories written or edited for use in the primary grades do not give enough insight into characters' goals, problems, motives, plans, and feelings.[11] This can make the plot difficult to figure out. The following paragraph about a raccoon is from a second-grade story:

> Because he (the raccoon) was still hungry, he started to look for something more to eat. Just as he started to look, he heard something coming down the road. Two men came along on their horses. The raccoon hid in back of a tree.[12]

Thus, if a textbook is to be easy to learn from, it must contain signals so that the reader can figure out the organization the author has used. Signaling can be provided by words or phrases that give clues to the structure; for example, the phrases *in contrast* and *on the other hand*. Previews or introductory statements, headings, and summary statements can also provide signals to the reader. Evidence is accumulating that confirms and extends the common sense conclusion that to be effective textbooks must be well-organized.[16]

Above all, textbooks must try to lay bare the fundamental structures of history, geography, health, and science - and in a manner that permits children and youth to grasp the structures.[17] A key to accomplishing this is building on the knowledge students already possess. For instance, a somewhat more abstract version of the structure of simple stories can be harnessed to yield one level of understanding of history.

Throughout history, people have had goals or faced problems, they have developed plans to reach the goals or solve the problems, they have acted on the basis of the plans, and their actions have resulted in outcomes. Though history has its individual "characters," more often than in a simple story the agent in an historical episode is an institution, government, or group of people. Whereas a child reading a story will immediately apprehend the motive of hungry boys ransacking a kitchen in search of the cookiejar, the same child reading about the Westward movement in this country may find the motives of the pioneers more obscure. Still, there is a parallel between the structure of stories and the structure of historical episodes that can be exploited.

Scholars who have examined subject matter textbooks often have failed to discover a logical structure.[18] Sections of many textbooks consist of little more than lists of facts loosely related to a theme. Abrupt, unmotivated transitions are frequent. Textbooks are as likely to emphasize a trivial detail or a colorful anecdote as a fundamental principle.

For instance, in the section of a middle-grade history textbook about the building of the transcontinental railroad, one quarter of the words are used to recount the tale of Governor Leland Stanford who in Promontory, Utah, on May 10, 1869, swung a sledge hammer at a golden spike and missed.[19] A close analysis of the sections from several textbooks on the building of the transcontinental railroad revealed that none of them explained clearly why people in this country wanted to build the railroad, what the plans were for accomplishing the task, or what happened as a consequence of this monumental project.[20] Every textbook went into considerable detail about the actions of the railroad construction crews, but these actions were not linked to goals, plans, and outcomes.

When textbooks make clear the connections between motive and action, form and function, or cause and effect, students understand better. One of a growing body of studies that supports this conclusion dealt with textbook material on the workings of the human circulatory system.[21] The first two paragraphs below are excerpted from a junior high school science textbook. The second two paragraphs are excerpted from a version of the material rewritten to make explicit the connections between the structure and function of each of the major parts of the circulatory system.

(original)

A human heart is a cone-shaped, muscular organ about the size of a large fist. The heart is located in the center of the chest behind the breastbone and between the lungs.

A human heart contains four chambers -*right atrium (AY tree uhm), left atrium, right ventricle (VEN rih kuhl),* and *left ventricle*. Right and left refer to the body's right and left sides. A wall separates the chambers on the right from the chambers on the left.

(rewritten)

The heart is the part of the circulatory system that pumps blood throughout the body. The heart is located in the center of the chest behind the breastbone and between the lungs. The human heart is suited for pumping because it is a hollow, cone-shaped, muscular organ about the size of a large fist. Being hollow, the heart can easily fill up with blood. Once filled, the heart muscle provides the power necessary for pumping the blood through the body.

A human heart contains four hollow chambers made for receiving and sending blood. The*right atrium* (AY tree uhm), and *right ventricle* (VEN truh kuhl) receive and send blood to the lungs, while the *left atrium, and left ventricle* receive and send

> blood to the rest of the body. (Note that right and left refer to your body's right-hand and left-hand sides.) The right and left sides of the heart are separated by a wall of muscle. This wall keeps blood going to the lungs separate from the blood going to the body.[22]

In a study involving several hundred eighth graders, students who studied the rewritten material learned more about the concepts required to understand the circulatory system than students who studied the original version.[23] Though the excerpt above from the rewritten version is much longer than the related excerpt from the original, the two versions were the same length when considered as a whole. The rewritten version was kept the same length by deleting what was judged to be extraneous information, such as the fact that, "The work done by the heart each minute is about equal to lifting 32 kg a distance of 30 cm off the ground."

In conclusion, many discussions of what may be wrong with textbooks, and what ought to be done to make them right, miss the mark. Pleas to control the "readability" of textbooks often confuse symptoms with causes. Pleas for high quality writing are vague. "Stylish" writing is not always comprehensible writing. Pleas to make textbooks "harder" are not on the mark either. While students do make faster progress when texts offer some challenge, people prove every day that it is possible to make unimportant information hard to understand. Surely, the goal is to write meaty texts, rich with important concepts and information, that at the same time are easy enough to understand.

To put the conclusion in a nutshell, school books should contain *adequate explanations* considering the skill level, knowledge, and reasoning power of the developing reader. What will be an adequate explanation depends upon the grade. In the case of a second-grade story, it may mean explaining why a raccoon is hiding behind a tree. In the case of a fifth-grade history text, it may mean explaining why the United States wanted to build the transcontinental railroad. In the case of an eighth-grade science text, it may mean explaining how the structure of the human heart supports its function.

Teaching That Will Extend Literacy

Textbook writers can make the process of extracting and integrating relevant information from stories and textbooks much easier for school children. However, well-written materials will not do the job alone. Teachers must instruct students in strategies for extracting and organizing critical information from text. This function of the teacher is all the more important since many textbooks are inadequate. Thus, whether children will make rapid or slow progress in becoming skilled readers depends upon the content and method of instruction.

Research has shown that children's learning is facilitated when critical concepts or skills are directly taught by the teacher.[24] The section on phonics in the preceding chapter concluded that breaking the code is easier for children when instruction directly provides information about letter-sound relationships. Similarly, comprehending information in textbooks is easier if students are instructed in strategies that cause them to focus their attention on the relevant information, synthesize the information, and integrate it with what they already know. Children should not be left guessing about how to comprehend. In the words of one researcher, "thinking needs to be made public."[25]

Direct instruction needs to be distinguished from questioning, discussion, and guided practice.[26] Direct instruction in comprehension means explaining the steps in a thought process that gives birth to comprehension. It may mean that the teacher models a strategy by thinking aloud about how he or she is going about understanding a passage. The instruction includes information on why and when to use the strategy. Instruction of this type is the surest means of developing the strategic processing that was identified earlier as characteristic of skilled readers.

In one study of direct comprehension instruction, seventh graders who could identify words adequately but displayed poor comprehension were taught four specific strategies to help them monitor their understanding and learning of textbook selections - devising questions about the text, summarizing, predicting what the author was going to say next, and resolving inconsistencies.[27] These strategies were taught by a technique called "reciprocal teaching" in which teacher and children worked together in small groups. First, the teacher gave direct instruction in the four strategies and modeled how to use them - for instance, by thinking aloud about how to formulate an important question about the text and talking about what she found unclear or confusing. Then, each of the students took on the role of the teacher, and asked the rest of the group a question and identified confusing aspects of the text, with the 'real' teacher giving guidance. After several weeks all students improved in answering comprehension questions. They also carried over these new strategies to other academic subjects. When the students were tested two months later, they were still using the strategies.

In another project, third- and fifth-grade children were taught how to use such strategies as skimming, *why* the strategies were helpful, and *when* to use them.[28] Bulletin boards, worksheets, and direct instruction from teachers reinforced the importance of the strategies, along with such metaphors as 'Be a Reading Detective' and 'Road Signs for Reading'. After four months of instruction, a number of different measures revealed significant improvements in students' reading.

The most logical place for instruction in most reading and thinking strategies is in social studies and science rather than in separate lessons about reading. The reason is that the strategies are useful mainly when the student is grappling with important but unfamiliar content. Outlining and summarizing, for instance, make sense only when there is some substantial material to be outlined or summarized. The idea that reading instruction and subject matter instruction should be integrated is an old one in education, but there is little indication that such integration occurs often in practice.

Indeed, it is a surprising fact, but one documented by studies in Canada as well as the United States, that direct comprehension instruction that goes beyond the meanings of individual words is rare any place in the curriculum in ordinary classrooms.[29] In one well-known study, only 45 minutes of comprehension instruction, not counting time spent asking and answering questions, were found during 17,997 minutes of observation in reading and social studies periods in 39 classrooms in 14 school districts.[30]

Why don't more teachers provide direct instruction in reading strategies? According to experts who have analyzed the teachers' manuals accompanying reading, social studies, and science programs, the advice they contain often is too sketchy to be of much help to a teacher who wants to directly teach some aspect of comprehension such as how to formulate the main idea of a passage.[31]

A manual isn't necessary for a teacher to teach in a fashion that "makes thinking public." However, the expectation that teachers can instruct students in these strategies without good manuals assumes that teachers have been trained to provide such instruction. Since most of the research underlying these strategies is relatively recent, this assumption is unrealistic. Just as students need instruction in knowing what, when, why, and how to think strategically when reading textbooks, teachers need to be trained in knowing what, when, why, and how to teach comprehension strategies directly.

Practice Appropriate for Extending Literacy

In this section, the important topic of independent practice of reading will be considered. "Independent" means that the student is expected to work alone with a minimum amount of supervision or help from the teacher or others. There are two aspects to independent practice. The first is practice that is intended to strengthen specific skills or concepts. This function is mainly served by workbooks and skill sheets in today's schools. The second is practice that is intended to reinforce the whole act of reading. The major activity that does this is extended silent reading. Also important are extended opportunities for speaking, listening, and, particularly, writing.

Workbooks and Skill Sheets

Students spend up to 70% of the time allocated for reading instruction in independent practice, or "seat-work."[32] This is an hour per day in the average classroom. Most of this time is spent on workbooks and skill sheets. Children spend considerably more time with their workbooks than they do receiving instruction from their teachers.

Publishers say that the demand for seatwork activities is insatiable. To meet the demand, most publishers supply a range of supplementary exercise sheets in addition to workbooks which relate to the basal reading lessons. Many teachers use the exercises of several publishers as well as ones they have prepared themselves. In the course of a school year, it would not be uncommon for a child in the elementary grades to bring home 1,000 workbook pages and skill sheets completed during reading period.

Analyses of workbook activities reveal that many require only a perfunctory level of reading.[33] Children rarely need to draw conclusions or reason on a high level. Few activities foster fluency, or constructive and strategic reading. Almost none require any extended writing. Instead, responses usually involve filling a word in a blank, circling or underlining an item, or selecting one of several choices. Many workbook exercises drill students on skills that have little value in learning to read. The exercises sometimes have difficult-to-understand directions and confusing art work. A serious problem is that some workbook pages and many skill sheets are poorly integrated with the rest of the reading lesson.

Consider, for example, the following exercise from a second-grade workbook:

> Read each sentence. Decide which consonant letter is used the most. Underline it each time.
> 1. My most important toy is a toy train.
> 2. Nancy, who lives in the next house, has nine cats.
> 3. Will you bring your box of marbles to the party?

It is peculiar to suppose that, if children can already read the sentences, their reading ability will be improved by asking them to underline consonants. Furthermore, though the children are directed to "read each sentence," they don't need to read anything but the directions to do the task. The one certain conclusion is that the exercise is time-consuming and extremely tedious.

Even young children often see the futility of doing workbook page after workbook page. One researcher asked children what they were doing when they were occupied with workbooks.[35] Most saw the pages merely as something to get finished. As one boy, age 6, said, "There! I didn't understand that, but I got it done". Students frequently don't read all the material in worksheets. Instead, they attempt to use shortcuts that allow them to answer in a mechanical fashion. If options a and c have been used to answer two of three questions, for example, some children will write down *b* for the third question without reading it.

Classroom research suggests that the amount of time devoted to worksheets is unrelated to year-to-year gains in reading proficiency.[36] Why, then, does this type of seatwork take the largest share of all the time devoted to reading? In the primary grades, the major reason appears to stem from the fact that children are taught reading in small groups. Maintaining the undivided attention of the children in one group is difficult to manage unless the rest of the children are occupied with tasks they can do by themselves that are sure to keep them busy. A contributing reason is the widespread practice of school-mandated tests covering small bits of knowledge about reading. As will be detailed in the chapter on testing, holding teachers responsible for children's performance on these tests reinforces heavy use of seatwork exercises.

In summary, while it cannot be doubted that well-designed workbooks and skill sheets can provide worth-while practice in aspects of reading, many of these exercise activities are poorly designed. The most notable shortcomings are the dubious value of a large share of the activities to growth in reading proficiency and the lack of integration of the activities with the rest of the reading lesson. For these problems, the publishing industry is responsible. Moreover, in the all too typical classroom, too much of the precious time available for reading instruction is given over to workbook and skill sheet tasks and students invest only the most perfunctory level of attention in the tasks. For these problems, teachers and school administrators are responsible. The conclusion is that workbook and skill sheet tasks should be pared to the minimum that will actually contribute to growth in reading.

Independent Reading

Research suggests that the amount of independent, silent reading children do in school is significantly related to gains in reading achievement.[37] However, the amount of time children spend reading in the average classroom is small. An estimate of silent reading time in the typical primary school class is 7 or 8 minutes per day, or less than 10% of the total time devoted to reading. By the middle grades, silent reading time may average 15 minutes per school day.[38]

Research also shows that the amount of reading students do out of school is consistently related to gains in reading achievement.[39] In one recent study, fifth graders completed a daily log of after-school activities for periods ranging from two to six months.[40] Among all the ways the children reported spending their leisure time, average minutes per day reading books was the best predictor of reading comprehension, vocabulary size, and gains in reading achievement between the second and the fifth grade.

But most children don't read very much during their free time. In the study of fifth graders mentioned above, 50% of the children read books for an average of four minutes per day or less, 30% read two minutes per day or less, and fully 10% never reported reading any book on any day. For the majority of the children, reading from books occupied 1% of their free time, or less. In contrast, the children averaged 130 minutes per day watching TV, or about one third of the time between the end of school and going to sleep."

Increasing the amount of time children read ought to be a priority for both parents and teachers. Reading books (and magazines, newspapers, and even comic books) is probably a major source of knowledge about sentence structure, text structure, literary forms, and topics ranging from the Bible to current events.

Independent reading is probably a major source of vocabulary growth. A synthesis of available evidence suggests that children in grades three through twelve learn the meanings of about 3,000 new words a year.[42] Some of these are directly taught in school, but a moment's reflection will show that this source could account for only a modest proportion of the total. To learn 3,000 words a year would require learning about 15 words every school day. Even the most determined advocates of vocabulary drill do not introduce this many words a day, let alone teach them to the level of mastery. One group of researchers has argued that, beyond the third grade, children acquire the majority of the new words they learn incidentally while reading books and other material."

Independent reading is probably a major source of reading fluency. In contrast to workbook pages or computer drills, the reading of books provides practice in the whole act of reading. Practice in this form is likely to be particularly effective in increasing the automaticity of word identification skills. Avid readers do twenty times or more as much independent reading as less frequent readers.[44] This means they are getting vastly more practice and helps to explain why children who read a lot make more progress in reading. Children who are avid readers come from homes in which reading is encouraged by a parent, grandparent, older brother or sister or even a baby sitter. They come from homes that have books, subscriptions to children's magazines, and in which both adults and children have library cards.[45] Public and school libraries are especially important for children from poor homes. One study found that the amount of reading children from poor homes did and their gains in reading achievement over the summer were related to the distance they lived from a public library.[46]

Analyses of schools that have been successful in promoting independent reading suggest that one of the keys is ready access to books. However, fully 15% percent of the nation's schools do not have libraries. In most of the remaining schools, the collections are small, averaging just over 13 volumes per student. In 1978, schools that did have libraries were adding less than a book a year per student, which does not even keep up with loss and wear.[47] According to a 1984 evaluation, "the collections of the school library ... are in increasing jeopardy; inventories have been shrinking, and what remains is bordering on the obsolete."[48]

In addition to school-wide libraries, several projects have demonstrated the value of classroom libraries. Children in classrooms with libraries read more, express better attitudes toward reading, and make greater gains in reading comprehension than children who do not have such ready access to books."[49] In one study with non-native English speakers, ample classroom libraries were associated with dramatic improvements in reading achievement that were still evident when the children were retested a few years later."[50]

Other features of school programs that are associated with increased independent reading include activities to interest children in books, guidance in choosing books from someone who knows both the books and the children, and time set aside during the school day for independent reading. Research suggests that the frequency with which students read in and out of school depends upon the priority classroom teachers give to independent reading.[51]

The Connection Between Reading and Writing

It cannot be emphasized too strongly that reading is one of the language arts. All of the uses of language - listening, speaking, reading, and writing - are interrelated and mutually supportive. It follows, therefore, that school activities that foster one of the language arts inevitably will benefit the others as well.

Writing activities, in particular, should be integrated into the reading period. Students can do extended writing in place of some of the workbook pages that now occupy so much of their time. Students can write about the material they have just read about in their basal readers. Or they can write about other topics. In either case, writing is seatwork that affects children's reading in positive ways.

Opportunities to write have been found to contribute to knowledge of how written and oral language are related, and to growth in phonics, spelling, vocabulary development, and reading comprehension.[52] Students who write frequently and discuss their writing with others approach reading with what has been termed the "eye of a writer." The following quotation illustrates the change in understanding of one young author:

> Before I ever wrote a book, I used to think there was a big machine, and they typed a title and then the machine went until the book was done. Now I look at a book and I know a guy wrote it and it's been his project for a long time. After the guy writes it, he probably thinks of questions people will ask him and revises it like I do.[53]

The value for reading is one reason for increased writing. Of course, the principal reason is that learning to write well is a valued goal in its own right. Unfortunately, every recent analysis of writing instruction in American classrooms has reached the same conclusion: Children don't get many opportunities to write. In one recent study in grades one, three and five, only 15% of the school day was spent in any kind of writing activity.[54] Two-thirds of the writing that did occur was word for word copying in workbooks. Compositions of a paragraph or more in length are infrequent even at the high school level.[55]

As was discussed in the chapter on Emerging Literacy, writing can be included in the earliest stages of reading instruction. Young children can write with preformed letters or print labels on pictures. Later, as children gain more control over the physical act of writing, writing ought to become even more integral to reading instruction.

Instruction in grammar is often justified on the grounds that it improves students' writing. In the long run, knowledge of grammar undoubtedly helps people become better writers as well as as better readers and better speakers. However, it is a mistake to suppose that instruction in grammar transfers readily to the actual uses of language. This may be the explanation for the fact that experiments over the last fifty years have shown negligible improvement in the quality of student writing as a result of grammar instruction.[56] Research suggests that the finer points of writing, such as punctuation and subject-verb agreement, may be learned best while students are engaged in extended writing that has the purpose of communicating a message to an audience.[57] Notice that no communicative purpose is served when children are asked to identify on a worksheet the parts of speech or the proper use of *shall* and *will*.

Skillful teachers find ways to give children reasons to communicate to real audiences. Children can retell stories that they have read in the form of a news release for classmates. They can write to maintain classroom life by writing announcements, schedules for class activities, diaries of classroom events, records of the weather, and acknowledgments of assistance from school personnel, a parent, or a classroom visitor. Letter writing, in particular, is a form of expression in which there are reasons to write to real audiences.

List writing is an easy way to initiate children into writing. For example, children might read to locate a recipe for cookies to be served at a class party. Once the recipe has been located, newspapers can be studied to determine the best source for ingredients. This could be followed by writing the shopping list of ingredients and directions for making the cookies for the class party.

Another form of writing that has been tried successfully in classrooms is keeping diaries or journals. Some teachers engage in give-and-take with students by periodically writing comments in their journals.[58] These teachers emphasize the content of the children's entries, and are sparing of suggestions about spelling, grammar, or handwriting.

In summary:

- Readability formulas are useful only as a rough check on the difficulty and appropriateness of books.
  It is also important to gauge clarity, organization, interest, literary quality, and subject matter accuracy.
- School textbooks should be rich with important concepts and information. Books for all grades need to contain adequate explanations taking into account the skill level, knowledge, and reasoning power of the reader.
- Teachers need to teach comprehension strategies directly. Teachers should devote more time to teaching strategies for understanding not only stories but also social studies and science texts.
- Workbook and skill sheet tasks take too much of the time allotted for reading. These should be pared to the minimum that will actually contribute to growth in reading.
- Students should do more extended writing. Writing is most beneficial when students have a reason to communicate to a genuine audience.
- Priority should be given to independent reading. Two hours a week of independent reading should be expected by the time children are in the third or fourth grade. To do this, children need ready access to books and guidance in choosing appropriate and interesting books. Reading should emphasize works that represent the core of our cultural heritage.

The Teacher and the Classroom

An indisputable conclusion of research is that the quality of teaching makes a considerable difference in children's learning. Studies indicate that about 15 percent of the variation among children in reading achievement at the end of the school year is attributable to factors that relate to the skill and effectiveness of the teacher.[1] In contrast, the largest study ever done comparing approaches to beginning reading found that about 3 percent of the variation in reading achievement at the end of the first grade was attributable to the overall approach of the program.[2] Thus, the prudent assumption for educational policy is that, while there may be some "materials-proof" teachers, there are no "teacher-proof" materials.

Teachers influence children's learning in a number of ways that materials alone cannot. The teacher's critical role in providing direct instruction was discussed in previous chapters. In addition, teachers influence children's learning in the following ways: Managing the classroom environment, pacing and content coverage, and grouping children for instruction.

Management of the Classroom Environment

Teachers who are successful in creating *literate environments* have classrooms that are simultaneously stimulating and disciplined. The successful teacher creates varied opportunities for language use. The successful teacher asks questions that make children think and requires children to answer in ways that communicate ideas clearly. The successful teacher uses language in a manner that sparks children's interest in the meanings and origins of words. In the classrooms of successful teachers, the children are encouraged to ask questions and present information about class experiences, current world events, television programs, and so on. In classrooms that foster enthusiasm for language, the children write a lot and do so for many reasons.

Though writing, speaking, and listening are all important, children must receive reading instruction and have opportunities for reading to become good readers. Research has substantiated that the amount of time that teachers allocate to reading relates to year-to-year gains in reading proficiency, as represented by standardized tests.[3] In the typical American classroom, a great deal of time is allocated to reading instruction. The best available evidence shows that the average is about an hour and a half per day.[4] Depending on the locale, the school day is about five hours in length.

Thus, about 30% of the school day in the average classroom is spent in reading instruction. However, it should be reiterated again that much of this time is devoted to workbook pages and skill sheets that have doubtful value in learning to read.

Furthermore, average figures obscure the extremes. The amount of time allocated to reading varies enormously from one classroom to another, even within the same school. Teachers have been observed who allocated as few as 35 minutes per day or as much as 126 minutes per day to reading.[5] At the low end of this range, there is reason to worry that children will not have enough time to make satisfactory progress in reading.

The time allocated to reading may or may not be used efficiently. Thus, more important than time allocated to reading is "engaged time" - the time the child is productively involved in reading.[6] The total amount of engaged time depends on allocated time, of course, and also on the skill of the teacher in managing the class.

Skilled teachers minimize discipline problems, and quickly handle the ones that do arise. At the beginning of the school year, skilled teachers establish routines for potentially time-wasting chores such as making transitions between activities, distributing supplies, getting help with assignments, and turning in completed work. When necessary, they provide instruction in carrying out these routines, and continue to remind students to use the routines until they do so from habit.[7]

Skilled teachers attempt to make clear the purpose of every activity. They make sure children understand how to do each task. They make sure children know what they are supposed to do when they finish a task. In classrooms taught by these teachers, more of the precious time available for learning is spent in activities with academic value.[8]

Effective teachers place a premium on subject matter learning, but they are not indifferent to children as individuals. They are supportive while at the same time maintaining high expectations for learning. One characteristic that distinguishes effective classrooms from ineffective ones is the teacher's commitment to the belief that all children can learn to read. Effective teachers strive to see that every child masters basic skills and then goes as far beyond this basic level as possible.[9]

Pacing and Content Coverage

The pace of instruction strongly predicts year-to-year gains in reading.[10] Children of any given level of ability who are in fast-paced groups show growth beyond the expected. Striking variation is evident across classrooms in the pace at which children move through material. A recent study reported data on the pace of instruction in 60 elementary school classrooms from seven different states.[11] On the average, the high-ability groups in these classrooms covered considerably more running words of text per week than the low-ability groups. The figures were 1,100 words as compared to 400 in high- and low-ability first-grade groups and 6,900 as compared to 4,400 in high- and low-ability fifth-grade groups. While some differences across grade and ability level are to be expected, the pace of instruction varied by a factor of ten or even twenty within groups at the same grade and supposedly at the same level of ability. For instance, the number of words read per week was reported to have varied from 600 to 8,900 in low-ability, fifth-grade groups.

Of course, the pace of instruction cannot be pushed beyond some limit. In the long run, the pace that can be maintained with a group depends not only on the ability of the children, but on the difficulty of the material, the time allocated to reading, and the percentage of allocated time during which the children remain actively engaged. A time-honored rule is that the pace is optimum when children accurately identify 95% or more of the words in a text while reading aloud. Another rule proposes that children ought to answer about 80% of the teacher's questions satisfactorily. If the level of success falls below these figures, the belief is that the pace is too brisk and the lessons are in danger of floundering. Available evidence does suggest that high levels of success are associated with large year-to-year gains in reading.[12]

Thus, though effective teachers move through material at a brisk pace, they do not sacrifice comprehension. They move in small steps and they move on to the next step only when students have been successful. How the most effective teachers manage to maintain both a fast pace and a high rate of success, two characteristics that may sometimes conflict, is a complex issue that research has not yet completely untangled.

One obstacle to an optimum pace is the meager ration of books with which many classrooms are stocked. There are reports of teachers who slow down when they see that they are running out of material. They may stop reading instruction altogether when they finish the assigned book, since they are not allowed to encroach on next year's book, and either other books are unavailable or the teacher does not perceive that it is important to keep the children reading.

Another obstacle to an optimum pace in some schools is the principal who insists that every child reach certain points in the reading curriculum on specified dates. The result can be that some students are rushed over material without mastering anything while other students mark time.

Grouping for Instruction

When children receive reading instruction in the United States, it usually takes place in a lesson with a small group of children of similar ability. Virtually all primary-grade teachers and many middle-grade teachers divide the children in a class into groups, most often three groups of high-, average-, and low-ability. Reading groups are kept small to make it easier for the teacher to maintain the active engagement of the children. Reading groups are composed on the basis of ability to enable the teacher to adapt the pace of instruction to the children; otherwise, the fast child may be held back or the slow child may be left behind.

In theory, ability grouping allows teachers to pace instruction at a more-nearly-optimum rate for children at every level than would be possible in whole class teaching. In fact, the evidence suggests that ability grouping may improve the achievement of the fast child but not the slow child.[13]

Whatever cute name may be given to a reading group, the children know their place. They evaluate their own abilities on the basis of the status of their group. The low-group students in one school may be at the same reading level as the students in the average group in another school. Yet, the low-group students in the one school may view themselves as poor readers, and their teachers may have lower expectations for their progress.[14]

There are qualitative differences in the experience of children in high and low reading groups that would be expected to place children in low groups at a disadvantage.[15] Children in low groups do relatively more reading aloud and relatively less silent reading. They more often read words without a meaningful context on lists or flash cards, and less often read words in stories. Teachers correct a higher proportion of the oral reading mistakes of children in low groups than children in high groups. When a mistake is corrected, teachers are more likely to furnish a clue about pronunciation and less likely to furnish a clue about meaning for children in low groups. Teachers ask relatively more simple, factual questions of children in low groups and relatively fewer questions that require reasoning.

Characteristically, low groups are less engaged with the lesson than high groups.[16] One reason for this is that low groups include children who are low in "social maturity" - that is, children perceived as troublemakers and those who won't pay attention - as well as children who are low in ability. In high groups, the children themselves sometimes police misbehavior and may coach others to pay attention. In low groups, children may distract one another. Moreover, teachers tolerate more interruptions of the lessons of low than high groups.[17]

It is difficult for a child to move from one group to another within a year.[18] Since teachers form the groups at the beginning of the year partly on the basis of the children's standing the previous year, changing groups from one year to the next is also difficult. It is a sad fact but frequently true that, "Once a bluebird, always a bluebird."

Yet the means for assessing reading ability, particularly the ability of children in kindergarten or first grade, are quite fallible. Grouping decisions, therefore, are also fallible. Some scholars have argued that it is not so much ability that determines the future attainment of a young child, but the reading group into which the child is initially placed.[19] As has been detailed already, the child in a group designated as low-ability will receive less instruction and qualitatively different instruction than the child would in a group designated as high-ability. As a result, the child may make slow progress in reading and the initial group designation may become a self-fulfilling prophecy.

A common belief among teachers is that all children require an equal share of their attention. Though children of all levels require direct instruction from teachers, low-ability children usually do less well than high-ability children when working alone or in small groups without the teacher.[20] In other words, close teacher supervision is particularly important for less able students. Thus, it seems advisable for teachers to assign fewer students to low groups and to keep closer track of these students during independent work periods.

The problems with ability grouping can be alleviated if not eliminated entirely. First, the assignment of children to groups should be reviewed periodically and children switched around, even though this means that some children will not have read all of the previous selections in the book. Second, reading groups do not always have to be formed on the basis of ability. For example, the advantage of small group instruction for holding attention would still be there if children were sometimes grouped on the basis of interest in the topic. Grouping according to interest is feasible, since children usually read at a higher level than may be typical for them when they find the topic particularly interesting.[21] Some reading teachers encourage children to sit in on the lessons of other groups, and report that the "visitors" profit from the experience; this is an idea that other teachers might wish to try. Most important, teachers must take care to provide rich lessons for each group of children, whatever their level.

Because of the serious problems inherent in ability grouping, the Commission believes that educators should explore other options for reading instruction. One option is more use of whole class instruction. This seems feasible for aspects of phonics, spelling, study skills, and comprehension. There are programs that recommend whole class teaching some of the time,[22] and they achieve good results, but whether the results are attributable to the use of whole class instruction or other features of the programs is not known.

Another possible supplement to the conventional arrangement of teacher-led instruction of children grouped according to ability is an arrangement in which children tutor each other, alternating in the role of teacher. "Peer tutoring" has proved successful in arithmetic, and it deserves exploration and study in reading as well.[23]

In conclusion:

- Effective teachers create literate environments for their children. They schedule reading and writing activities as a priority, move through materials at an appropriate pace, stimulate and sustain children's attention, and arrange for high rates of success.
- Grouping by ability may slow the progress of low-ability students. Both the quantity and quality of instruction for low groups need improvement. Some of the problems with ability grouping can be alleviated by switching group assignments periodically, using criteria other than ability for group assignment, and, maybe, increasing the time devoted to whole class instruction.

What Is Reading?

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26. E.g.:

    Beck, I. L. (1973). *A longitudinal study of the reading achievement effects of formal reading instruction in the kindergarten: A summative and formative evaluation*. Unpublished doctoral dissertation, University of Pittsburgh.

    Bissex, G. (1980). *Gnys at wrk: A child learns to write and read.* Cambridge, MA: Harvard University Press.

    Durkin, D. (1974-75). A six year study of children who learned to read in school at the age of four. *Reading Research Quarterly, 10,* 9-61.

    Soderbergh, R. (1977). *Reading in early childhood: A linguistic study of a preschool child's gradual acquisition of reading ability*. Washington, DC: Georgetown University Press.

    Taylor (1983) op. cit.

27. Becker, W. C., & Engelmann, S. (1978). *Analysis of achievement data on six cohorts of low-income children from 20 school districts in the University of Oregon Direct Instruction Follow Through Model* (Follow Through Project, Tech. Rep. No. 78-1). Eugene, OR: University of Oregon.

    Meyer, L. A., Gersten, R. M., & Gutkin, J. (1983). Direct Instruction: A Project Follow Through success story in an inner-city school. *The Elementary School Journal, 84,* 241-252.

28. Darlington, R. B. (1981). The consortium for longitudinal studies. *Educational Evaluation and Policy Analysis, 3,* 37-45.

    Lazar, I., Hubbel, V. R., Murray, H., Rosche, M., & Royce, J. (1977). *The persistence of preschool effects.* Washington, DC: Department of Health Education and Welfare.

    Schweinhart, L. J., & Weikart, D. P. (1980). *Young children grow up: The effects of the Perry Preschool program on youths through age 15.* Ypsilanti, MI: High Scope Educational Research Foundation.

29. See:

    Bagford, J. (1968). Reading readiness scores and success in reading. *The Reading Teacher, 21,* 324-328.

    Lohnes, P. R., & Gray, M. M. (1972). Intelligence and the Cooperative Reading Studies. *Reading Research Quarterly, 7,* 466-476.

    However, some studies report a weaker relationship between early listening comprehension proficiency and third grade reading achievement. E.g. Muehl, S., & Di Nello, M. C. (1976). Early first-grade skills related to subsequent reading performance: A seven year follow-up study. *Journal of Reading Behavior, 8,* 67-81.

30. Atkin, R., Bray, R., Davison, M., Herzberger, S., Humphreys, L., & Selzer, U. (1977). Cross-lagged panel analysis of sixteen cognitive measures at four grade levels. *Journal for Research in Child Development, 48,* 944-952. A review and an extension of this work appears in Humphreys, L. G., & Davey, T. C. (1983). *Anticipation of gains in general information: A comparison of verbal aptitude, reading comprehension, and listening* (Tech. Rep. No. 282).

Urbana: University of Illinois, Center for the Study of Reading.

31. See Mason, J. M. (1984). Early reading from a developmental perspective. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 505-543). New York: Longman.

32. Hiebert, E. H., & Sawyer, C. C. (1984, April). *Young children's concurrent abilities in reading and spelling*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA. Similar trends have been reported in Mason, J. M. (1980). When do children begin to read: An exploration of four-year-old children's letter and word reading competencies. *Reading Research Quarterly, 15*, 203-227.

33. Barrett, T. (1965). The relationship between measures of prereading, visual discrimination and first grade reading achievement: A review of the literature. *Reading Research Quarterly, 1*, 51-76.

    Bond, G. L., & Dykstra, R. (1967). The cooperative research program in first-grade reading instruction (entire issue). *Reading Research Quarterly, 2(4)*.

    de Hirsch, K., Jansky, J. J., & Langford, W. D. (1966). *Predicting reading failure: A preliminary study*. New York: Harper & Row.

34. The effects of training in letter-names alone have been reported in:

    Muehl, S. (1962). The effects of letter-name knowledge on learning to read a word list in kindergarten children. *Journal of Educational Psychology, 53*, 181-186.

    Samuels, S. J. (1972). The effect of letter-name knowledge on learning to read. *American Educational Research Journal, 9*, 65-74.

    Silberberg, N. E., Silberberg, M. C., & Iversen, I. A. (1972). The effects of kindergarten instruction in alphabet and numbers on first grade reading. *Journal of Learning Disabilities, 5*, 254-261.

    Venezky, R. L. (1975). The curious role of letter names in reading instruction. *Visible Language, 9*, 7-23.

    The benefits in training in both letter-names and letter-sounds have been reported in Ohnmacht, D. D. (1969). *The effects of letter-knowledge on achievement in reading in the first grade*. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, CA. There is also evidence indicating that improved decoding ability is achieved when letter-sound training is combined with other types of training. See Jeffrey, W. E., & Samuels, S. J. (1967). The effect of method of reading training on initial learning and transfer. *Journal of Verbal Learning and Verbal Behavior, 6*, 354-358.

35. Clay, M. M. (1972). *Reading, the patterning of complex behavior*. Auckland, NZ: Heinemann.

    Downing, J. (1979, June). *Cognitive clarity and linguistic awareness*. Paper presented at the International Seminar on Linguistic Awareness and Learning to Read, University of Victoria, Victoria, BC.

    Ehri, L. (1979). Linguistic insight: Threshold of reading acquisition. In T. G. Waller & G. E. MacKinnon (Eds.), *Reading research: Advances in theory and practice* (Vol. 1, pp. 63-114). New York: Academic Press.

    Goodman, K., & Goodman, Y. (1979). Learning to read is natural. In L. B. Resnick & P. A. Weaver (Eds.), *Theory and practice of early reading* (Vol. 1, pp. 137-154). Hillsdale, NJ: Erlbaum.

    Harste, J. C., Burke, C. L., & Woodward, V. A. (1982). Children's language and world: Initial encounters with print. In J. Langer & M. Trika Smith-Burke (Eds.), *Reader meets author/Bridging the gap* (pp. 105-131). Newark, DE: International Reading Association.

    Mason (1980) op. cit.

36. For thoughtful discussions of children's first learning of words, letters, and sounds, see:

    Ehri, L. C., & Wilce, L. S. (1985). Movement into reading: Is the first stage of printed word learning visual or phonetic? *Reading Research Quarterly, 20*, 163-179.

    Gough, P. B., & Hillinger, M. L. (1980). Learning to read: An unnatural act. *Bulletin of the Orton Society, 30*, 180-196.

    Mason (1980) op. cit.

37. Martin, B., & Brogan, P. (1971). *Teacher's guide to the instant readers*. New York: Holt, Rinehart, & Winston.

38. Durkin (1966) op. cit.

39. Moore, O. K., & Anderson, A. R. (1968). The responsive environments project. In R. D.

Hess & R. M. Bear (Eds.), *Early education* (pp. 171-189). Chicago, IL: Aldine.

40. A general review of the value of early writing in helping young children refine their understanding of the written language system is provided by Dyson, A. H. (1984). Reading, writing, and language: Young children solving the written language puzzle. In J. M. Jensen (Ed.), *Composing and comprehending* (pp. 165-175). Urbana, IL: National Conference on Research in English and ERIC Clearinghouse on Reading and Communication Skills.

41. Chomsky (1971, 1979) op. cit.

    Read, C. (1971). Pre-school children's knowledge of English phonology. *Harvard Educational Review, 41,* 1-34.

42. Harste, J., Woodward, V. A., & Burke, C. L. (1984). *Language stories and literacy lessons.* Exeter, NH: Heinemann.

43. Educational Products Information Exchange. (1977). *Report on a national study of the nature and the quality of instructional materials most used by teachers and learners* (Tech. Rep. No. 76). New York: EPIE Institute.

    Fisher, C. W., Berliner, D., Filby, N., Marliave, R., Cohen, L., Dishaw, M., & Moore, J. (1978). *Teaching and learning in elementary schools: A summary of the beginning teacher evaluation study.* San Francisco, CA: Far West Regional Laboratory for Educational Research and Development. For a briefer account of this research, see Teaching behaviors, academic learning time, and student achievement: An overview. In C. Denham & A. Lieberman (Eds.). (1980). *Time to learn* (pp. 7-32). Washington, DC: National Institute of Education.

44. Anderson, L. (1984). The environment of instruction: The function of seatwork in a commercially developed curriculum. In G. G. Duffy, L. R. Roehler, & J. Mason (Eds.), *Comprehension instruction: Perspectives and suggestions* (pp. 93-103). New York: Longman.

    Fisher et al. (1978) op. cit.

    Mason, J., & Osborn, J. (1982). *When do children begin "reading to learn"?: A survey of classroom reading instruction practices in grades two through five* (Tech. Rep. No. 261). Urbana: University of Illinois, Center for the Study of Reading.

    Shannon, P. (1983). The use of commercial reading materials in American elementary schools. *Reading Research Quarterly, 19,* 68-85.

45. Perfetti, C. A., & Lesgold, A. M. (1979). Coding and comprehension in skilled reading and implications for reading instruction. In L. B. Resnick & P. A. Weaver (Eds.), *Theory and practice of early reading* (Vol. 1, pp. 57-84). Hillsdale, NJ: Erlbaum.

46. Smith, N. B. (1965). *American reading instruction.* Newark, DE: International Reading Association.

47. Mathews, M. M. (1966). *Teaching to read, historically considered.* Chicago, IL: University of Chicago Press.

48. Flesch, R. (1955). *Why Johnny can't read.* New York: Harper.

49. Chall, J. S. (1967). *Learning to read: The great debate.* New York: McGraw-Hill. In her recent update of the research from the past fifteen years (See Note 50), Chall found even stronger evidence for phonics.

50. Chall, J. S. (1983). *Learning to read: The great debate* (2nd ed.). New York: McGraw-Hill.

    Johnson, D. D., & Baumann, J. F. (1984). Word identification. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 583-608). New York: Longman.

    Pflaum, S. W., Walberg, H. J., Karegianes, M. L., & Rasher, S. P. (1980). Reading instruction: A quantitative analysis. *Educational Researcher, 9,* 12-18.

    Williams, J. P. (1985). The case for explicit decoding instruction. In J. Osborn, P. T. Wilson, & R. C. Anderson (Eds.), *Reading education: Foundations for a literate America* (pp. 205-213). Lexington, MA: Lexington Books.

51. Becker, W. C., & Gersten, R. (1982). A follow-up of Follow-Through: The later effects of the Direct Instruction model on children in fifth and sixth grades. *American Educational Research Journal, 19,* 75-92. For an examination of the long-term effects of the Direct Instruction model on students in high school, see Meyer, L. A. (1984). Long-term academic effects of the Direct Instruction Project Follow Through. *The Elementary School Journal, 84,* 380-394.

52. Alternative terms which have often been used for explicit and implicit phonics are synthetic and analytic phonics, deductive and inductive phonics, or direct and indirect phonics.

53. The slashes // indicate a speech sound. This is a notation used in the International Phonetic Alphabet. The complete notation system uses other special symbols to precisely identify sounds. In this document, the slashes will be used to indicate a speech sound, but the rest of the symbols will not be employed. When the slashes are used here, the intended sound can be determined from the context.

54. The examples used in text are generic examples that can be found in programs such as the following:

Buchanan, C. D. (1973). *Programmed reading: A Sullivan Associates program* (3rd ed.). New York: McGraw-Hill.

Engelmann, S., & Bruner, E. C. (1974). *Distar reading I: An instructional system* (2nd ed.). Chicago, IL: Science Research Associates.

Hughes, A., Bernier, S. A., Thomas, N., Bereiter, C., Anderson, V., Gurren, L., Lebo, J. D., & Overberg, J. A. (1982). *The Headway program.* La Salle, IL: Open Court.

Matteoni, L., Lane, W. H., Sucher, F., & Yawkey, T. D., Harris, T. L., & Allen, H. B. (1984). *The Keytext program.* Oklahoma City, OK: The Economy Company.

55. See Rosenshine, B., & Stevens, R. (1984). Classroom instruction in reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 745-798). New York: Longman. For an experimental study in which blending facilitates the word recognition performance of kindergarten children, see Haddock, M. (1976). The effects of an auditory and auditory-visual method of blending instruction on the ability of prereaders to decode synthetic words. *Journal of Educational Psychology, 68,* 825-831.

56. Beck, I. L., & McCaslin, E. S. (1978). *An analysis of dimensions that affect the development of code-breaking ability in eight beginning reading programs* (LRDC Publication 1978/6). Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.

57. The examples used in text are generic examples that can be found in programs such as the following:

Aaron, I. E., Jackson, D., Riggs, C., Smith, R. G., & Tierney, R. J. (1983). *Scott, Foresman reading.* Glenview, IL: Scott Foresman & Company.

Clymer, T., Venezky, R. L., & Indrisano, R. (1984). *Ginn reading program.* Lexington, MA: Ginn & Company.

Early, M., Cooper, E. K., & Santeusanio, N. (1983). *HBJ Bookmark reading program.* Orlando, FL: Harcourt Brace Jovanovich.

It should be noted that one program that employs an implicit phonics approach does allow the teacher to produce some vowel sounds in isolation. See Durr, W. K., LePere, J. M., Pescosolido, J., Bean, R. M., & Glaser, N. A. (1983). *Houghton Mifflin reading program.* Boston, MA: Houghton Mifflin Company.

58. Durkin, D. (1983). *Is there a match between what elementary teachers do and what basal reader manuals recommend?* (Reading Ed. Rep. No. 44). Urbana: University of Illinois, Center for the Study of Reading. A briefer account of this research is available under the same title in *The Reading Teacher* (1984), *37,* 734-744.

59. E.g.:

Bruce, D. J. (1964). Analysis of word sounds by young children. *British Journal of Educational Psychology, 34,* 158-169.

Calfee, R. C., Chapman, R. S., & Venezky, R. L. (1972). How a child needs to think to learn to read. In L. W. Gregg (Ed.), *Cognition in learning and memory.* New York: Wiley.

Liberman, I. Y. (1973). Segmentation of the spoken word and reading acquisition. *Bulletin of the Orton Society, 23,* 65-77.

Liberman, I. Y., Cooper, F. S., Shankweiler, D., & Studdert-Kennedy, M. (1967). Perception of the speech code. *Psychological Review, 74,* 431-461.

Rosner, J. (1973). Language arts and arithmetic achievement and specifically related perceptual skills. *American Educational Research Journal, 10,* 59-68.

60. Resnick, L. B., & Beck, I. L. (1976). Designing instruction in reading: Interaction of theory and practice. In J. T. Guthrie (Ed.), *Aspects of reading acquisition* (pp. 180-204). Baltimore, MD: Johns Hopkins University Press.

61. Cohen, A. S. (1974-1975). Oral reading errors of first-grade children taught by a code-emphasis approach. *Reading Research Quarterly, 10,* 616-650.

Norton, D. (1976). A comparison of the oral reading errors of high and low ability first and third graders taught by two approaches — synthetic phonic and analytic-eclectic. (Doctoral dissertation, University of Wisconsin-Madison). *Dissertation Abstracts Inernational, 37,* 3399A.

62. Biemiller, A. (1970). The development of the use of graphic and contextual information as children learn to read. *Reading Research Quarterly, 6,* 75-96.

63. Carnine, L., Carnine, D., & Gersten, R. (1984). Analysis of oral reading errors made by economically disadvantaged students taught with a synthetic-phonics approach. *Reading Research Quarterly, 19,* 343-356.

64. Goodman, K. S. (1976). The reading process: A psycholinguistic view. In E. B. Smith, K. S. Goodman, & R. Meredith. *Language and thinking in school* (pp.265-283). New York: Holt, Rinehart & Winston. Kenneth Goodman also provides pertinent comment on the efficacy of phonics instruction in *Reading: A conversation with Kenneth Goodman.* (1976). Glenview, IL: Scott, Foresman and Company, p.7.

    Smith, F. (1973). Decoding: The great fallacy. In F. Smith (Ed.), *Psycholinguistics and reading* (pp. 70-83). New York: Holt, Rinehart & Winston.

65. See Note 50.

66. The advantages of having children identify words by analogy with other known words was first noted by Gates, A. I., & Russell, D. H. (1938). Types of materials, vocabulary burden, word analysis, and other factors in beginning reading. II. *Elementary School Journal, 39,* 119-128. For a recent application of this approach, see Cunningham, P. M. (1975-1976). Investigating a synthesized theory of mediated word identification. *Reading Research Quarterly, 11,* 127-143.

67. To simplify this discussion, "pre-primers" and "first readers" are being included together with primers.

68. For thoughtful discussions of the characteristics of primers, see:

    Beck, I. L. (1981). Reading problems and instructional practices. In G. E. MacKinnon & T. G. Waller (Eds.), *Reading research: Advances in theory and practice* (Vol. 2, pp. 53-95). New York: Academic Press.

    Willows, D. M., Borwick, D., & Hayvren, M. (1981). The content of school readers. In G. E. MacKinnon & T. G. Waller (Eds.), *Reading research: Advances in theory and practice* (Vol. 2, pp. 97-175). New York: Academic Press.

69. For a description of the informal methods of instruction used in New Zealand, see Clay, M. M. (1976). Early childhood and cultural diversity in New Zealand. *The Reading Teacher, 29,* 333-342. Favorable results seem to have been achieved by these methods, as suggested by recent cross-national studies of reading:

    Guthrie, J. (1981). Reading in New Zealand: Achievement and volume. *Reading Research Quarterly, 17,* 6-27.

    Purves, A. C. (1973). *Literature education in ten countries: An empirical study.* New York: Wiley.

    Thorndike, R. L. (1973). *Reading comprehension education in fifteen countries: An empirical study.* New York: Wiley.

70. Bond & Dykstra (1967) op. cit.

71. From "Mix and make". (1982). In T. Clymer & R. L. Venezky, *Ginn reading program* (Level 3, Unit 2). Lexington, MA: Ginn & Company, pp. 36-37.

72. From "At the seashore". (1982). In A. Hughes, S. A. Bernier, N. Thomas, C. Bereiter, V. Anderson, L. Gurren, J. D. Lebo, & J. A. Overberg. *The Headway program* (Level B-1, Lesson 17). LaSalle, IL: Open Court, p. 67.

73. Beck (1981) op. cit.

74. Ruddell, R. B. (1965). The effect of oral and written patterns of language structure on reading comprehension. *The Reading Teacher, 18,* 270-275.

    Tatham, S. M. (1970). Reading comprehension of materials written with select oral language patterns: A study at grades two and four. *Reading Research Quarterly, 3* 402-426.

    Wilkinson, I. A. G., & Brown, C. A. (1983). Oral reading strategies of year one children as a function of level of ability and method of instruction. *Reading Psychology, 4,* 1-9.

75. Dr. Seuss. (1960). *Green eggs and ham.* New York: Beginner Press.

76. Mason & Osborn (1982) op. cit.

    Shannon (1983) op. cit.

77. Durkin (1983) op. cit.

Mason, J. (1983). An examination of reading instruction in third and fourth grades. *The Reading Teacher, 36,* 906-913.

78. Durkin (1983) op. cit.

Mason & Osborn (1982) op. cit.

79. E.g:

Hansen, J. (1981). The effects of inference training and practice on young children's reading comprehension. *Reading Research Quarterly, 16,* 391-417.

Hansen, J., & Pearson, P. D. (1983). An instructional study: Improving the inferential comprehension of good and poor fourth-grade readers. *Journal of Educational Psychology, 75,* 821-829.

Omanson, R. C., Beck, I. L., Voss, J. F., & McKeown, M. G. (1984). The effects of reading lessons on comprehension: A processing description. *Cognition and Instruction, 1,* 45-67.

80. Beck, I. L., McCaslin, E. S., & McKeown, M. G. (1981). Basal readers' purpose for story reading: Smoothly paving the road or setting up a detour? *Elementary School Journal, 81,* 156-161.

81. Beck, I. L., Omanson, R. C., & McKeown, M. G. (1982). An instructional redesign of reading lessons: Effects on comprehension. *Reading Research Quarterly, 17,* 462-481.

82. Ibid.

83. Allington, R. L. (1982). *Amount and mode of contextual reading as a function of reading group membership.* Paper presented at the National Council of Teachers of English, Washington, DC.

84. This conclusion is suggested by studies of repeated reading (see Samuels, 1985 op. cit.) and by research described by Brecht, R. D. (1977). Testing format and instructional level with the informal reading inventory. *The Reading Teacher, 31,* 57-59.

85. Durkin (1983) op. cit.

86. Collins, J. (1980). *Differential treatment in reading instruction.* Berkely, CA: Language Behavior Research Laboratory.

87. Anderson, L. M., Evertson, C. M., & Brophy, J. E. (1979). An experimental study of effective teaching in first-grade reading groups. *The Elementary School Journal, 79,* 193-223.

Hoffman, J. V., O'Neal, S. F., Kastler, L. A., Clements, R. O., Segel, K. W., & Nash, M. F. (1984). Guided oral reading and miscue focused verbal feedback in second-grade classrooms. *Reading Research Quarterly, 19,* 367-384.

88. Anderson, R. C., Mason, J., & Shirey, L. (1984). The reading group: An experimental investigation of a labyrinth. *Reading Research Quarterly, 20,* 6-38.

89. E.g. Anderson, Evertson, & Brophy (1979) op. cit.

90. Dahl, P. R., & Samuels, S. J. (1979). An experimental program for teaching high speed word recognition and comprehension skills. In J. E. Button, T. C. Lovitt, & T. D. Rowland (Eds.), *Communications research in learning disabilities and mental retardation.* Baltimore, MD: University Park Press.

Herman, P. A. (in press). The effect of repeated readings on reading rate, speech pauses and word recognition accuracy. *Reading Research Quarterly.*

Samuels (1985) op. cit.

91. Allington, R. L. (1984). Oral reading. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 829-864). New York: Longman.

Leinhardt, G., Zigmond, N., & Cooley, W. W. (1981). Reading instruction and its effects. *American Educational Research Journal, 18,* 343-361.

92. See Tharp, R. G. (1982). The effective instruction of comprehension: Results and description of the Kamehameha Early Education Program. *Reading Research Quarterly, 17,* 503-527.

93. Bransford, J. D., Stein, B. S., Vye, N. J., Franks, J. J., Auble, P. M., Mezynski, K. J., & Perfetto, G. A. (1982). Differences in approaches to learning: An overview. *Journal of Experimental Psychology: General, 111,* 390-398. Also see the subsequent three papers by Bransford and his colleagues in this volume.

Owings, R. A., Peterson, G. A., Bransford, J. D., Morris, C. D., & Stein, B. S. (1980). Spontaneous monitoring and regulation of learning: A comparison of successful and less successful fifth graders. *Journal of Educational Psychology, 72,* 250-256.

Paris, S. G., & Lindauer, B. K. (1976). The role of inference in children's comprehension and memory for sentences. *Cognitive Psychology, 8,* 217-227.

94. Beck, Omanson, & McKeown (1982) op. cit.

    Hansen (1981) op. cit.

    Hansen & Pearson (1983) op. cit.

95. Durkin (1983) op. cit.
96. Beck, I. L., & McKeown, M. G. (1981). Developing questions that promote comprehension: The story map. *Language Arts, 58,* 913-918.
97. See Duffy, G. G. (1981). Teacher effectiveness research: Implications for the reading profession. In M. L. Kamil (Ed.), *Directions in reading: Research and instruction* (pp. 113-136). Washington, DC: National Reading Conference.
98. Rosenshine & Stevens (1984) op. cit.

Extending Literacy

1. Hirsch, E. D., Jr. (1983). Cultural literacy. *The American Scholar, 53,* 159-169.
2. Fry, E. B. (1968). A readability formula that saves time. *The Journal of Reading, 11,* 513-516; 575-578.
3. Chall, J. S. (1958). *Readability: An appraisal of research and application.* Columbus, OH: Ohio State University.

   Klare, G. R. (1984). Readability. In P. D. Pearson (Ed.), *Handbook of reading research* (pp. 681-744). New York: Longman.

4. Klare (1984) op. cit. pp. 717-718.
5. Chall, J. S. (1984). Readability and prose comprehension: continuities and discontinuities. In J. Flood (Ed.), *Understanding reading comprehension: Cognition, language and the structure of prose.* Newark, DE: International Reading Association.

   Davison, A. (1984). Readability — appraising text difficulty. In R. C. Anderson, J. Osborn, & R. J. Tierney (Eds.), *Learning to read in American schools: Basal readers and content texts* (pp. 121-139). Hillsdale, NJ: Erlbaum.

6. The rewritten version is from "Little Hippo". (1980). In W. Eller, K. B. Hester et al. *The Laidlaw reading program* (Level 6, Reader 1). River Forest, IL: Laidlaw Brothers, p. 46. It was adapted from the original by Bennett, R. (1960). *The secret hiding place.* Cleveland, OH: World, p. 1.
7. Ibid. pp. 48 and 3 respectively.
8. Applebee, A. N. (1980). Children's narratives: New directions. *The Reading Teacher, 34.* 137-142.

   Stein, N. L., & Trabasso, T. (1982). What's in a story: An approach to comprehension and instruction. In R. Glaser (Ed.), *Advances in instructional psychology* (Vol. 2, pp. 213-254). Hillsdale, NJ: Erlbaum.

9. Stein & Trabasso (1982) op. cit.
10. Beck, I. L., McKeown, M. G., & McCaslin, E. S. (1981). Does reading make sense? Problems of early readers. *The Reading Teacher, 34,* 780-785.

    Stein & Trabasso (1982) op. cit.

11. Bruce, B. C. (1984). A new point of view on children's stories. In R. C. Anderson, J. Osborn, & R. J. Tierney (Eds.), *Learning to read in American schools: Basal readers and content texts* (pp. 153-174). Hillsdale, NJ: Erlbaum.

    Steinberg, C., & Bruce, B. C. (1980). *Higher-level features in children's stories: Rhetorical structure and conflict* (Reading Ed. Rep. No. 18). Urbana: University of Illinois, Center for the Study of Reading.

    Willows, D. M., Borwick, D., & Hayvren, M. (1981). The content of school readers. In G. E. MacKinnon & T. G. Waller (Eds.), *Reading research: Advances in theory practice* (Vol. 2, pp. 97-175). New York: Academic Press.

12. From "The raccoon and Mrs. McGinnis". (1976). In T. Clymer & P. M. Martin, *Reading 720* (Level 7, Unit 6). Lexington, MA: Ginn & Company, p. 234.
13. Beck, I. L., McKeown, M. G., Omanson, R. C., & Pople, M. T. (1984). Improving the comprehensibility of stories: The effects of revisions that improve coherence. *Reading Research Quarterly, 19,* 263-277.
14. Blom, G. E., Waite, R. W., & Zimet, S. G. (1970). A motivational content analysis of children's primers. In H. Levin & J. P. Williams (Eds.), *Basic studies on reading* (pp. 188-221). New York: Basic Books.

    Bruce (1984) op. cit.

    Chall, J. S., Conrad, S. S., and Harris, S. H. (1977). *An analysis of textbooks in relation to declining SAT scores.* New York: College Entrance Examination Board.

    Chall, J. S., Conrad, S. S., and Harris-Sharples, S. H. (1983). *Textbooks and challenge: An inquiry into textbook difficulty, reading achievement, and knowledge acquisition.* Final report to the Spencer Foundation.

15. Gallagher, M. C., & Pearson, P. D. (1982). *An examination of expository texts in elementary instructional materials.* Paper presented at the National Reading Conference, Clearwater, FL.

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APPENDICES

My Favorite Sea Monsters:

GREAT WHITE SHARK

by Don C. Reed*

The tank lights went out. I was in the dark with the shark.

I was scared. I had been summoned to Marine World Africa USA to swim with an injured great white shark, at night.

It was my job as head scuba diver for the oceanarium-zoo in northern California to "walk" the injured shark, swimming it forward so water would flow past its gills, allowing it to breathe.

As I drove toward the park, I thought about the horror movie "Jaws." Its star, a shark the size of a school bus, had terrified me. I reminded myself that the shark in "Jaws" had been a 25-foot-long robot, larger than the biggest real white shark ever caught. But I also knew the movie was based on a real incident.

In 1916, a great white swam up a fresh-water creek near Matawan Bay, N.J., and killed four people. It was eventually caught, human remains still in its stomach.

That shark was eight feet long--the same size as the injured shark I was going to visit.

It was dark when I arrived at the oceanarium and put on my wet suit and diving equipment. Floodlights made the water in the giant reef aquarium tank glow an eerie green.

*Montgomery County Public Schools gratefully acknowledges Don C. Reed for his permission to reproduce this article which was originally published in Boys' Life Magazine, January, 1991.

Behind my weight belt I tucked a homemade antishark stick--a stainless steel rod fitted with a bicycle grip. Then I swam cautiously out into the tank.

Suddenly, a school of kelp bass scattered before me. I yanked out the shark stick. But it was only our giant loggerhead turtle that scared the bass.

Then I saw them: the diver I was to relieve, and the great white shark. From the straight ahead, the shark looked all mouth. I swam wide around the forest of teeth, approaching from the back. I tapped the diver on the shoulder. He jerked his head around, startled. He must have been thinking shark.

I put my hands on the back of the shark. The hide, covered with toothlike scales, was very rough in one direction, toward the head, and smooth the other way.

This female great white was in trouble. She had been tangled in fishing nets and brought to Marine World to be saved.

My job was to push her, not ride. Sharks, unlike most fish, cannot hold still and breathe for very long. They must keep moving. Pushing her was like shoving a lawn mower uphill, through weeds.

At first, the shark did not seem real. She felt like a sandpaper-covered surfboard. I leaned around close and looked at her mouth. One row of notch-edged triangles stood upright, and other rows lay behind it.

Now the jaw moved, slowly, as though its owner were testing the equipment. The flat black eye rolled back and looked at me. She was real, all right.

Somebody tapped me, and I jumped. My turn was up. We traded places, and the shark-walk went on.

We switched divers every 10 or 15 minutes. But there were not many of us, and all too often it was my turn again.

The shark's rough hide wore the skin off my fingertips. The coldwater, tension and sheer exertion of pushing the shark exhausted me. When the shark stick fell out of my belt, I told myself I would go get it when my turn was up. But I forgot.

At three in the morning, the park had a mild power failure, and the floodlights went dark. This was important to me, because at the time I was under-water with the white shark. I could see nothing. Worse, the darkness seemed to trigger something in the shark. I could feel a faster rhythm in the muscles beneath her rough hide.

I was holding the shark by the dorsal fin. Her tail fin brushed back and forth beneath my legs, harder. No longer was I pushing, but was pulled, towed faster and faster through the black water.

I heard a small, terrible noise--shhclick, shhclick-like steak knives meshing together. It was her teeth. She was flexing and testing her jaws.

Suddenly she turned right, hard, jerking free. The jolt numbed my wrist. My eyes strained to see her, but could not.

There was only one thing to do. Letting out my breath, I fell softly to the floor, settling, drifting, like dead weight. When my heels touched bottom, I carefully backed up, shuffling, hoping I would not blunder into the shark or a dangerous moray eel.

Because sharks, like all hunters, are attracted by movement, I hid by holding still. Every other creature in the tank was doing exactly the same.

Soon my eyes adjusted to the faint moonlight. Then I saw her. She was trying to shake off her grogginess by swimming forward quickly. Before long, she rammed the wall of the reef tank. I could do nothing to stop her. The impact shook her like a bag of water, and she sank.

Behind my mask, my eyes were stinging with tears. I swam to her, struggled to pick her up and tried again to "walk" her. She moved a little, but it was really over after that.

In the morning, we could see her clearly for the first time. She was beautiful. Her skin was a rich brown, fading to silver on the sides, and she had a cream-white belly. Her eyes were not pure black, but tinged with blue. Her snout pointed like the nose of a jet airplane.

I wished she could have survived. Then millions of people could have come to see her, and perhaps understood better why we need these predators of the sea. For by eating sick and wounded fish, sharks help to keep the ocean healthy.

Are sharks the horrible man-eaters that movies make them out to be? Rarely. Hundreds of millions of people swim in the ocean, yet around the world only about 12 are killed by sharks each year.

When our white shark stopped moving, and even a touch on her eyeball brought no response, the two-year-old female *carcharodon carcharias* was pronounced dead.

She was lifted from the water, measured (7 feet 6 inches) and weighed (350 pounds). Cause of death was determined (blood clots on the brain formed after she hit the wall).

As for me, I put on my street clothes and drove home, and narrowly escaped having a bad accident when I fell asleep behind the wheel of my car.

After that, if anybody asked: "You swam with a white shark? Weren't you afraid? Weren't you in terrible danger?" I could truthfully answer that I was most afraid on the drive to the park, and in the greatest danger on the long ride home. - **Don C. Reed**

"Say Cheese, Please!"

by John Cancalosi*

"Hey! Whoa! Get down!" I yelled, shaking my leg as hard as I could. A confused koala with long, sharp claws was about to climb up the nearest "tree"--me!

That sort of thing happens all the time when I photograph koalas. They're cute as can be. But taking their pictures can be quite an adventure!

For my very first try, I started in a wildlife refuge in southern Australia. I struck out on foot through rough country, carrying cameras, a tripod, and a heavy telephoto lens. I was ready to go to work, but I had a major problem:
All the koalas were way up in trees.

How am I ever going to get all this equipment up in those trees?
I wondered. Then something caught my eye. Right in front of me was a huge male koala. He was sitting on a low tree limb, watching *me*. We stared at each other for a minute. Then he just kind of dozed off to sleep.

I grinned to myself--this was going to be easy after all. So I set up my equipment and took a few shots of him sleeping.

Then I just waited for him to wake up and do something else. I waited... and waited... and waited. I knew that koalas aren't active during the day. But this was ridiculous! Finally I had to give up and go home.

*Montgomery County Public Schools gratefully acknowledges John Cancalosi for permission to reproduce this article which was originally published in Ranger Rick Magazine, January, 1990.

JUST HANGING AROUND

After that first day, something was very clear to me: There was only one way to get better action shots of koalas. I was going to have to act like a koala. And that meant climbing trees.

I started out again, looking up into the treetops. Sure enough, there were lots of big, gray, furry lumps--koalas, way up there. But again, I lucked out. I came across a small male koala in a tree that I could easily climb.

I started up the tree slowly, so I wouldn't scare him. But one look at me and that koala started to wail. I couldn't believe the noise he made. It sounded almost exactly like a person sobbing!

I climbed back down the tree. But he kept on blubbering. I got back out of sight, but he still kept right on "crying". What had I done?

Luckily for me, a ranger happened along. He told me he had heard other young males wail like this. Male koalas often fight over their territories. So perhaps "my" Koala had just been "beaten up" by another male koala. Or maybe he thought I was the biggest, weirdest koala he had ever seen, climbing up to kick him out of his tree!

TACKLING TEDDIES

Koalas eat the leaves of *eucalyptus* (YOU-kuh-LIP-tuss) trees. But if there are too many koalas, they eat all the leaves, and the trees may die.

When this starts to happen near someone's home, rangers are often called in to catch and move the koalas. That may seem like an easy job. After all, koalas look like cuddly teddy bears. In fact, many Australians even call the koalas "teddies." But you don't want to mess with one! I found that out when I went along on a koala-catching mission.

To get a koala out of the trees, the rangers used a long pole with a red flag attached. They held the flag over the koala's head and shook it a little. The koala tried to get away from the flapping flag by backing down the tree.

Waiting on the ground were the rangers. As the koala neared the ground, the rangers slipped a noose around its body and tugged the koala from the tree with the rope. Then two or more rangers tackled the "teddy" and wrestled it into a waiting cage.

That might sound like rough treatment, but koalas are rough, tough animals. They have long claws and sharp teeth--and they aren't afraid to use them!

Koalas are also a lot stronger than they look. I watched while one tried to "buck off" a ranger who was clinging to its back. It looked as if it were doing push-ups! I changed my mind about koalas that day--they look like teddy bears, but cuddly they're not!

HITCHING A RIDE

One of the things I had most wanted to photograph was a mother koala with a baby on her back. I knew it was probably too early in the season for me to see many "back young." But I wanted to give it a good try. As I trudged along, I thought about newborn baby koalas.

As you may know, koalas are *marsupials* (mar-SUE-pea-uhls). That means they carry their small young in a pouch on their belly. When a koala is born, it's only about the size of a peanut. The tiny hairless baby crawls up its mother's belly fur and into her pouch. There it spends the next few months feeding on her milk. After it is about five months old, the baby spends more and more time out of the pouch. And then later, when the baby is strong enough, it hitches a ride on its mama's back as she travels around.

My thoughts were interrupted by some sounds in the trees. There was a mother koala with a small furry baby. And, boy, was it cute!

I spent much of the next few days in trees watching those two koalas. I took lots of shots, but I never saw the baby on its mother's back. I was disappointed, of course. But that's part of the wildlife photography business. And I did get a "special bonus" :

The park where I was taking my photographs had lots of koalas in it--too many in some places. Often koalas are moved from the park to places where there aren't so many. At the same time, more trees are planted to make food and homes for the koalas that stay.

I thought this was a great idea. So whenever it was too windy or rainy to take photographs, I helped the park rangers plant trees. By the time I left Australia, I had planted several hundred.

Next time I go back to Australia, I'll check on the trees I planted. Maybe I'll be able to climb "my" trees. I'll point my camera at the koalas in them --and tell those koalas: "Say cheese!"

Definitions of Types of Discourse

Narrative texts - an account of an event or series of events that form a plot and involve characters in a setting over a period of time. Characteristic forms include short stories, novels, folktales, fables, myths, legends, biographies, autobiographies, diaries, journals, ballads, and story poems.

Expository texts - a structured steet of ideas and information about a topic, often with generalizations and supporting details. Characteristic forms include encyclopedia articles, news articles, feature articles, textbooks, and expository tradebooks.

Persuasive texts - a set of statements expressing opinion about a topic or product, often with supporting information intended to convince or persuade the reader/listener. Characteristic forms include advertisements, editorials, reviews, and critiques.

Procedural texts - A set of directions that indicate the proper sequence of steps in making or doing something. Characteristic forms include recipes, game directions, signs, warnings, and directions for developing a skill. Also included are directions for travel, first aid, tests, assignments, informational forms, and science investigations.

Instructional Guide in Reading/Language Arts: Reading and Listening
Page 7, Board of Education of Montgomery County, Rockville, Maryland.

Writing Intents

Narrative writing - The focus is primarily on the work itself, as an object worthy of being appreciated in its own right. Some examples of narrative writing are stories, fables, folk tales, novels, story poems, and plays.

Expository writing - The focus is primarily on the subject matter itself, on relaying facts to others. Some examples of informative writing are reports, summaries, answers to essay questions, eye-witness accounts, and news stories. Procedural writing is included in the curriculum as a kind of informative writing.

Procedural writing - See expository writing.

Persuasive writing - The focus is primarily on achieving some practical effect on, or change the opinion of others. Some examples of persuasive writing are advertisements, commercials, letters-to-the -editor, and editorials.

Note: In any piece of writing these intents will overlap. For example, an advertisement may be informative as well as persuasive. In persuading someone to buy a product, the writer includes information about that product. Similarly, literary forms which primarily tell a story may contain expressive, informative, and persuasive elements. These intents may be separated in the curriculum for both theoretical and practical reasons and serve as a framework for clustering the objectives in writing.

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